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AN ANALYSIS OF CAUSES OF ANXIETY AMONG CHILDREN IN SCHOOL.

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*ANXIETY, ELEMENTARY SCHOOL STUDENTS, *SCHOOL ENVIRONMENT, *SCHOOL CONDITIONS, *PSYCHOLOGICAL PATTERNS, THEORIES, PSYCHOEDUCATIONAL PROCESSES, *PSYCHOLOGICAL TESTING, FOURTH GRADE, FIFTH GRADE, METROPOLITAN ACHIEVEMENT TESTS, CALIFORNIA TEST OF MENTAL MATURITY, CHILDREN@S SCHOOL QUESTIONNAIRE

THE BASIC PURPOSE OF THIS STUDY WAS TO ATTEMPT TO FIND OUT WHETHER ANXIETY IN ELEMENTARY SCHOOL CHILDREN WAS TO A SIGNIFICANT DEGREE THE RESULT OF SCHOOL EXPERIENCES AND CONDITIONS. THE ANTECEDENTS AND CONSEQUENCES OF SCHOOL ANXIETY WERE ALSO TO BE ANALYZED. THE METHOD OF STUDY INVOLVED OBTAINING MEASURES OF SCHOOL ANXIETY AT THE BEGINNING AND END OF THE SCHOOL YEAR OVER A PERIOD OF 2 OR MORE SCHOOL YEARS, AND COMPARING THE TREND WHICH IS FOUND DURING THE TIME CHILDREN ARE UNDER THE COMBINED INFLUENCE OF IN-SCHOOL AND OUT-OF-SCHOOL ENVIRONMENT (AND MATURATION) WITH THE TREND DURING THE TIME THEY ARE UNDER ONLY THE DIRECT INFLUENCE OF OUT-OF-SCHOOL ENVIRONMENT (AND WERE SELECTED AS SUBJECTS. DATA WERE OBTAINED ON THE SUBJECTS FROM CUMULATIVE RECORDS, THE CHILDREN, AND THEIR TEACHERS. THE METROPOLITAN ACHIEVEMENT TESTS, THE CALIFORNIA TEST OF MENTAL MATURITY, AND THE CHILDREN@S SCHOOL QUESTIONNAIRE WERE ADMINISTERED TO THE SUBJECTS. TEACHER NOMINATIONS OF CHILDREN WITH A WIDE VARIETY OF BEHAVIORAL CHARACTERISTICS WERE A MAJOR SOURCE FOR THE DATA GATHERED. FINDINGS WERE COMPLEX AND REQUIRE STUDY IN CONTEXT. AT THE METHODOLOGICAL LEVEL, HOWEVER, THE USEFULNESS OF THE IN-SCHOOL AND OUT-OF-SCHOOL PARADIGM WAS DEMONSTRATED. (ED)

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FINAL REPORT

Project No. 2616 / Grant No. OE-5-10-012

An Analysis of Causes of Anxiety Among Children in School

August 31, 1966

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Erratum

The numbers 32 and 33 were inadvertently not used in numbering the pages of this report.

AN ANALYSIS OF CAUSES OF ANXIETY AMONG CHILDREN IN SCHOOL

Project No. 2616
Contract No. OE-5-10-012

Beeman N. Phillips

August 31, 1966

The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

The University of Texas

Austin, Texas

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Introduction

The original impetus for this project was the awareness that the school was explicitly or implicitly credited with a highly significant impact on the academic, intellectual, personal, and emotional adjustment of children. Yet the writer could recall no study specifically addressed to the problem of separating the influence of the in-school environment on the child's intellectual and emotional behavior in school from the influence of the out-of-school environment. Coupled to this was the knowledge that the Zeitgeist in American education has demanded greater effort and achievement on the part of children, especially in middle class neighborhoods, and, as a result it had become commonplace in the 1950's and in the early 1960's to speak out on the stresses, anxieties and tensions created in children by these exhortations to excel and to get good grades.

It was out of the juxtaposing of these ideas that this project had its genesis, for its basic purpose was to attempt to find out whether anxiety in elementary school children was to a significant degree the result of school experiences and conditions. Probably as a consequence of the foregoing Zeitgeist and its accompanying concerns about education, Sarason and his co-workers had for several years prior to the inception of this project been studying test anxiety (Sarason, et al., 1960). Anxiety since the time of Freud had been a mainstay in most personality and developmental theories, and it was a significant addition to theory when Sarason applied this concept to test and test-like situations in school. In the context of this development it was not a large intellectual achievement to move to the idea of school anxiety, although as far as the writer knows he was the first to explicate the concept and to begin systematically researching it. (This was in 1962-63).

Beginning with the basic idea that during the school year the child is exposed to and experiences both the in-school and the out-of-school environment, and that during the summer months he is usually exposed to and experiences only his out-of-school environment, it was possible to conceptualize a way in which an estimate of the effect of the in-school environment on school anxiety could be developed, assuming that maturation did not differentially influence in-school and out-of-school experiences. Briefly, the method involves obtaining measures of school anxiety at the beginning and end of the school year over a period of two or more school years, as shown in the figure below, and comparing the trend which is found during the time when children are under the combined influence of the in-school and out-of-school environment (and maturation) with the trend during the time they are only under the direct influence of the out-of-school environment (and maturation).

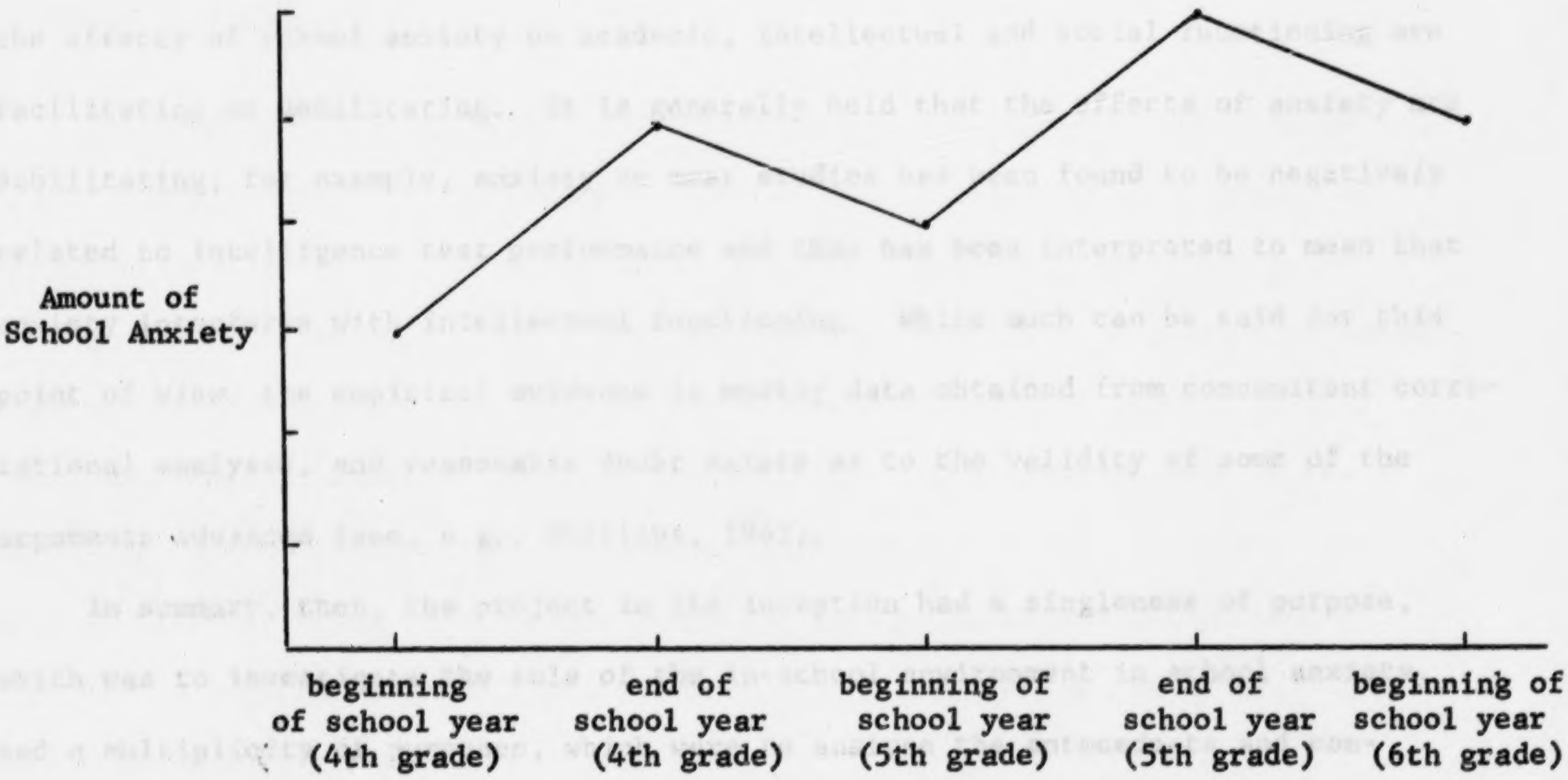


Figure 1. Hypothetical school anxiety group means, assuming the in-school environment increases school anxiety, the out-of-school environment decreases school anxiety, and that all other things are equal.

After formulation in terms of this basic paradigm the problem lent itself to extrapolation and development along several lines. In addition to the possibility that the in-school environment has general, overall effects on the development of school anxiety in children, it is probable that children's personal characteristics are independently as well as interdependently related to school anxiety, so that individual and subgroup differences in the development of school anxiety are likely to occur. In short, a number of basic personality processes can be logically related to school anxiety and conceptually integrated into a rationale or theory about the antecedents of school anxiety, and this was part of the task accepted in this project.

The project moved in still another direction, and this, too, was buttressed by a great deal of psychological theory and research. This was toward a consideration of the consequences of school anxiety in the context of the school, and in this connection an important issue had to be faced and dealt with, which is whether the effects of school anxiety on academic, intellectual and social functioning are facilitating or debilitating. It is generally held that the effects of anxiety are debilitating; for example, anxiety in most studies has been found to be negatively related to intelligence test performance and this has been interpreted to mean that anxiety interferes with intellectual functioning. While much can be said for this point of view, the empirical evidence is mostly data obtained from concomitant correlational analyses, and reasonable doubt exists as to the validity of some of the arguments advanced (see, e.g., Phillips, 1962).

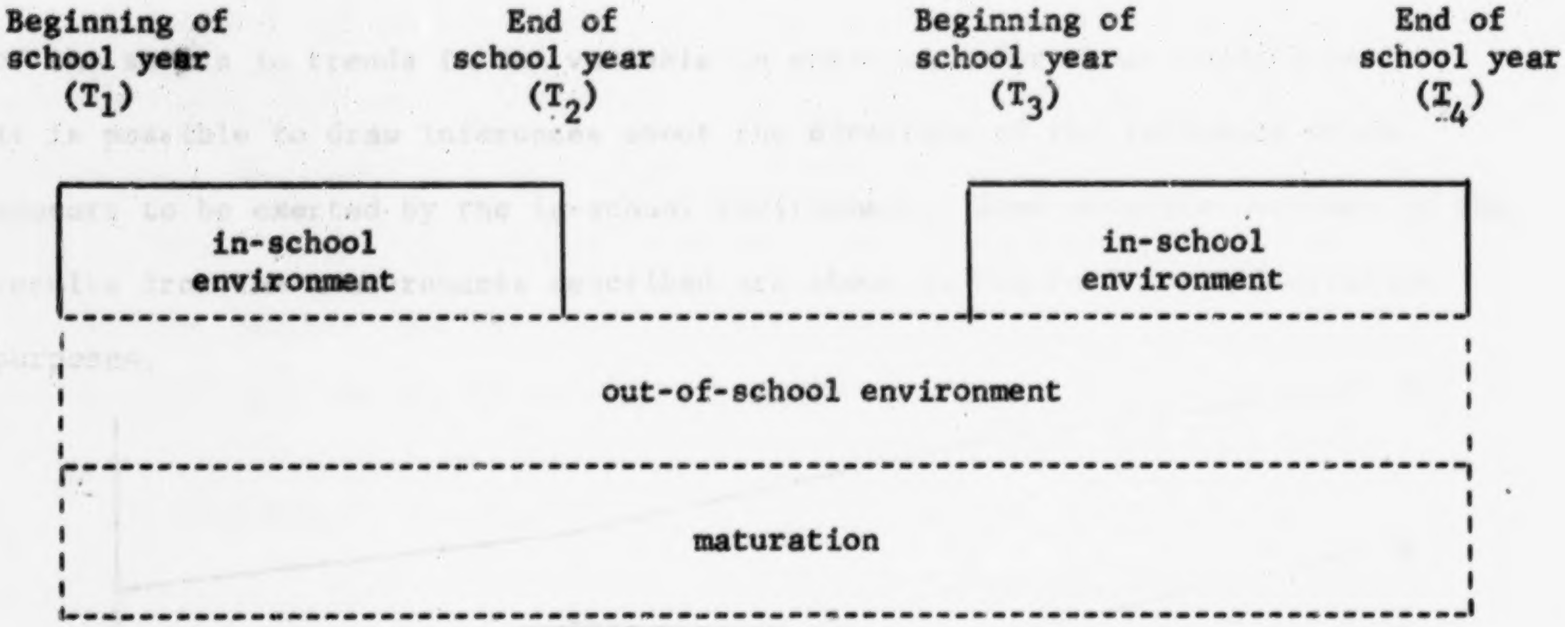
In summary, then, the project in its inception had a singleness of purpose, which was to investigate the role of the in-school environment in school anxiety, and a multiplicity of purposes, which were to analyze the antecedents and consequences of school anxiety. To these dual aims, and the largely uncharted, winding pathways research so often must follow, the rest of this final report is devoted.

Chapter 1

Conceptualization of the General Problem

We have already stated that the major premises and thrust of the project was in two directions. The first was to determine whether school anxiety and the variables which were hypothesized to be related to school anxiety as antecedents and/or consequences are significantly related to the in-school environment of children. And the second was to determine whether these variables which were selected in terms of the evidence of the psychological literature and grounded in our theoretical developments actually are significantly related as antecedents and/or consequences to school anxiety.

The effects of the in-school and out-of-school environment. The essence of the overall design of this study is the periodic measurement of a number of variables on a group of elementary school children, beginning in fourth grade and continuing on through fifth grade, and the introduction of a quasi-experimental, naturalistic "treatment" into this series of measurements, the effects of this "treatment" being indicated by appropriate changes in the measurements of the variables, or in the relationships between measurements of the variables. The general paradigm which provides the basis for making the determination that a variable is significantly related to the in-school environment and/or the out-of-school environment is shown in Figure 2.


Beginning of school year (T_1)
End of school year (T_2)
Beginning of school year (T_3)
End of school year (T_4)
in-school environment
in-school environment
out-of-school environment
maturation

T_1, T_2, T_3, T_4 = times at which school anxiety and other variables hypothesized to be significantly related to the in-school and/or out-of-school environment are measured.

Figure 2. Schematic representation of the in-school and out-of-school environment over a period of two school years.

In a quasi-experimental, naturalistic setting reflected in Figure 2, with measurements of the variables obtained at the beginning and end of each school year, the trend in the measurements between T_1 and T_2, T_2 and T_3, and T_3 and T_4 is an indication of whether any of the variables are significantly associated with the in-school environment. In the usual experimental and quasi-experimental design one introduces a variable, treatment and the like, into the situation, and then sees what happens. However, in this study we take something out, i.e., we remove the children from the direct influence of the in-school environment and see what happens to the variable in question; then we put the children back into the in-school environment, and see what happens again to the variable in question. If the trend of the measurements on the variable in question changes when we take the children out of direct contact with the in-school environment, and again when we put them back into the in-school environment, then we suppose that the variable in question is significantly influenced by the in-school environment, provided that alternative or rival hypotheses can be ruled out. And by examining the nature of the shifts in trends in the variable in question under these conditions it is possible to draw inferences about the direction of the influence which appears to be exerted by the in-school environment. Some possible outcomes of the results from the measurements described are shown in Figure 3 for illustrative purposes.

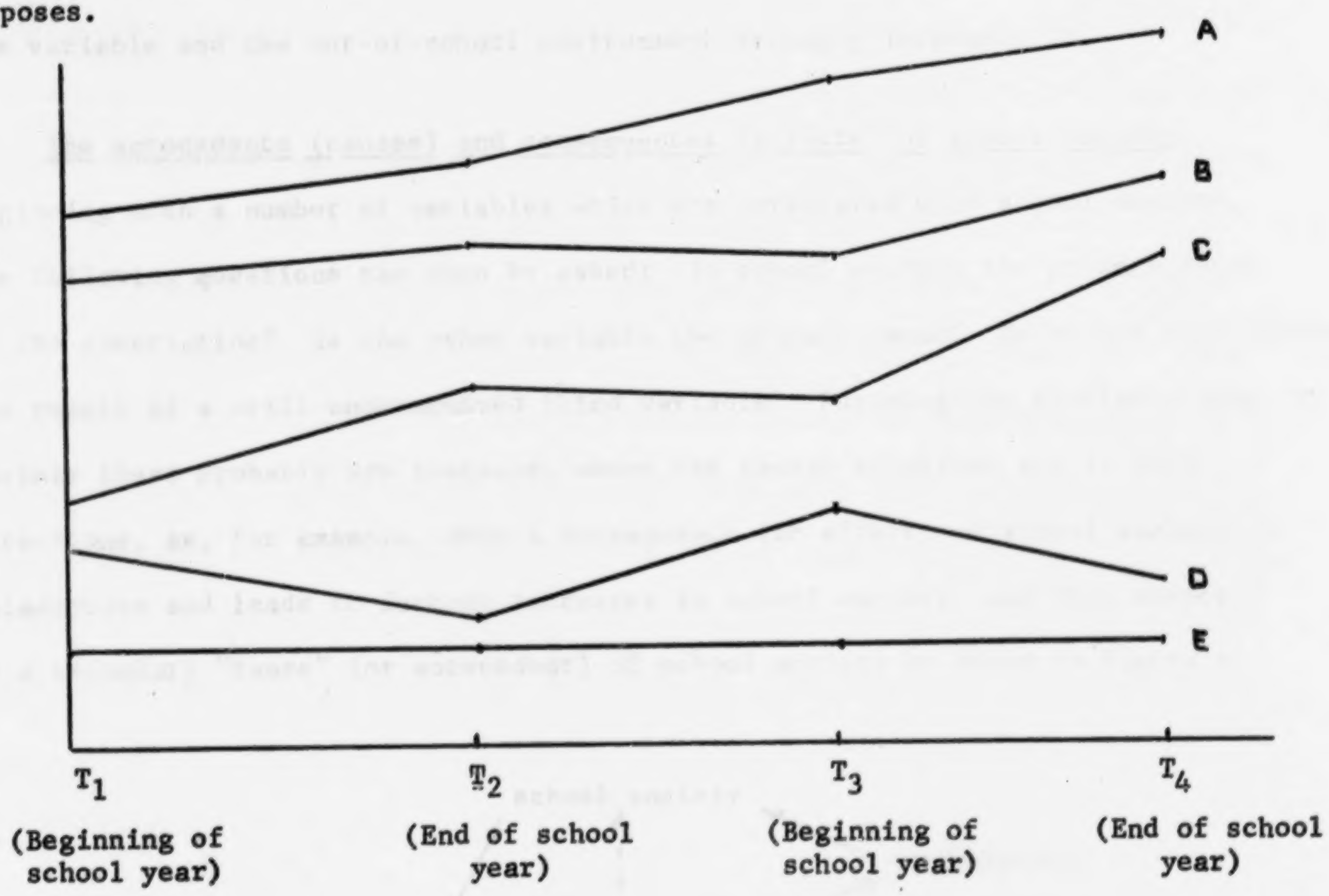


Figure 3. Some possible outcomes for a variable measured at the beginning and end of two consecutive school years.

If one wanted to infer that the in-school environment had an effect on the variable depicted in Figure 3 he would be unjustified in doing so if he obtained the results shown in A and E, since changes in the variable in A are uniform across the three periods of time, and in E there are no changes in the variable during the three periods. In B, C, D, however, an inference can tentatively be made that the in-school environment has a different effect on the variable than the out-of-school environment, provided, of course, that other interpretations of the results are not more (or equally) plausible. In B we could conclude that the out-of-school environment decreases status on the variable, while the in-school environment increases it. In C we could say that the out-of-school environment has no effect on the variable, while the in-school environment increases it. And in D it appears that the in-school environment strongly decreases status on the variable and the out-of-school environment strongly increases it.

The antecedents (causes) and consequences (effects) of school anxiety. Beginning with a number of variables which are correlated with school anxiety, the following questions can then be asked: Is school anxiety the primary cause of the covariation? Is the other variable the primary cause? Or is the covariation the result of a still undetermined third variable? Pursuing the problem a step further there probably are instances where the causal relations are in both directions, as, for example, when a consequence (or effect) of school anxiety is maladaptive and leads to further increases in school anxiety, and thus serves as a secondary "cause" (or antecedent) of school anxiety as shown in Figure 4.

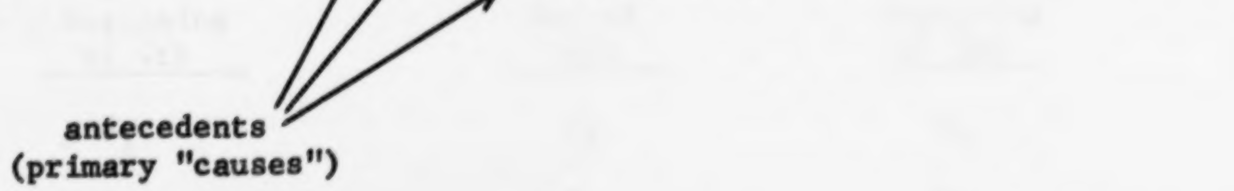


Figure 4. Hypothetical relationship between primary and secondary "causes" of school anxiety.

Causal inferences are equivocal with ordinary correlational data, but Campbell and Stanley (see Campbell and Stanley, 1963; and Campbell, 1963) have proposed a quasi-experimental design which allows one to make causal interpretations of appropriately time-lagged correlations. They call this design the "cross-lagged panel correlation," and it is to be applied to the problem of identifying which of the variables related to school anxiety have the best claim to being called antecedents (or causes) of school anxiety and which have the best claim to being called consequences (or effects) of school anxiety. As they note, the rationale of this design is that a presumed cause (or antecedent) should correlate higher with a presumed effect (or consequence) which follows it than with a presumed effect (or consequence) which precedes it. In other words, if a presumed cause and its effect are measured at the beginning and end of fourth grade, $r_{C_1E_2}$ should be greater than $r_{C_2E_1}$, and applying the same logic to a cause and effect measured at the beginning and end of the fifth grade, $r_{C_3E_4}$ should be greater than $r_{C_4E_3}$, as indicated in Table 1. Also, when a cause is significantly related to the in-school environment $r_{C_2E_3}$ should not be different from $r_{C_3E_2}$, since these correlations are across the summer months when the in-school environment is not directly influencing the children.

Table 1.

Anticipated differences in correlations between a cause (C) and its effect (E) cross-lagged across the school year and the summer months

Beginning of 4th	End of 4th	Beginning of 5th	End of 5th
C_1	C_2	C_3	C_4
E_1	E_2	E_3	E_4

$r_{C_1E_2} > r_{C_2E_1}$ $\quad$ $r_{C_2E_3} = r_{C_3E_2}$ $\quad$ $r_{C_3E_4} > r_{C_4E_3}$

Finally, in conjunction with the cross-lagged correlational approach, it appears that a more complete view of what is happening is obtained by comparing differences in the initial and final levels of the effect (E) when the cause is at an initially high level (HC) or low level (LC). For example, if, as in Table 2, means on an effect (E) are determined for subjects who are initially high (HC) or low (LC) on the cause (C), it is predicted that the effect mean will increase during the school year in the HC group, decrease in the LC group, and remain unchanged in both groups across the summer months. Of course, the logic of this method can be extended to analyze results for a greater number of levels of the cause or to analyze results when the cause changes.

Table 2.

Anticipated mean differences in the effect (E) across the two school years and the summer months for samples initially high (HC) or low (LC) in level of the cause (C)

Sample	Beginning of 4th	End of 4th	Beginning of 5th	End of 5th
HC samples	$\bar{X}_{E_1}$	$\bar{X}_{E_2}$	$\bar{X}_{E_3}$	$\bar{X}_{E_4}$
LC samples	$\bar{X}_{E_1}$	$\bar{X}_{E_2}$	$\bar{X}_{E_3}$	$\bar{X}_{E_4}$
HC samples	$\bar{X}_{E_1} > \bar{X}_{E_2}$	$\bar{X}_{E_2} = \bar{X}_{E_3}$	$\bar{X}_{E_3} > \bar{X}_{E_4}$	
LC samples	$\bar{X}_{E_1} < \bar{X}_{E_2}$	$\bar{X}_{E_2} = \bar{X}_{E_3}$	$\bar{X}_{E_3} < \bar{X}_{E_4}$	

Major Concepts in a
Theory of School Anxiety

After being introduced and given major status in psychoanalytic theory by Freud (1936), the concept of anxiety has received increasing attention in many other psychological theories. With the development of a questionnaire for measuring anxiety (Taylor, 1953), there was a serious effort to study anxiety within learning theory, and many studies in this tradition have occurred (Spence and Spence, 1966). Preceding these developments and continuing along side them, anxiety usually has been found among the concepts of the cognitive theorists. Most recently, Atkinson has conceptualized anxiety in terms of the approach-avoidance paradigm, i.e., in terms of the need to avoid failure (Atkinson and Feather, 1966). And, of course, there has been a continuing interest in anxiety among psychoanalytic theorists, and the comprehensive series of studies by Sarason and his colleagues within the psychoanalytic framework has already been referred to (Sarason et al., 1960). All this, and much more (e.g. Ruebush's 1963 review contains 242 references), stamps anxiety as a central construct in psychological theory; and what will occupy us in the remainder of this section is the theoretical conceptions which guided the present project, and their relation to the foregoing approaches.

A two-factor theory of school motivation. As we consider what is involved in a theory of school anxiety it is apparent that a good beginning is with motivation, since in most psychological theories it is assumed that motives play a role in what happens when a person "behaves." We are no exception and our starting point is what might be called a two-factor theory of motivation. Patterning our thinking after Lewin, and in more recent times McClelland, Atkinson and others (e.g. Atkinson, 1960), we take the position that motives may be oriented toward pleasure-seeking or toward pain-avoiding behavior, and in the tradition of these and other psychologists it is appropriate to refer to these two types of motivation as approach and avoidance motivation.

If one raises the question of how such motives are acquired, our answer would be that they are acquired by individuals principally in terms of their experiences in a variety of situations, and when a class of situations, e.g. school situations, regularly produce reward, pleasure, and the hope of success, approach tendencies assume a predominant role. But when the same class of situations regularly produce punishment, pain, and fear of failure, then avoidance tendencies become dominant. Thus, in a general way an individual's history of experiences determines whether he is predominantly approach-oriented in regard to a particular class of situations, or whether he is predominantly avoidance-oriented.

At the level of a specific class of situations, like, for example, school situations, one must consider out-of-school (i.e. extrinsic), as well as in-school (i.e., intrinsic), sources of motivation. A child who is strongly avoidance-oriented in relation to school situations because he has had a history of failure and punishment in school and therefore, in terms of motives intrinsic to these situations, seeks to avoid further failure, may at the same time be strongly approach-oriented in relation to school situations because of motives which are extrinsic to school situations, i.e., he is under parental pressure and other out-of-school influences. Thus it is hypothetically possible to have approach and avoidance tendencies in regard to school situations which include different proportions of in-school and out-of-school influences, as indicated in Figure 5.

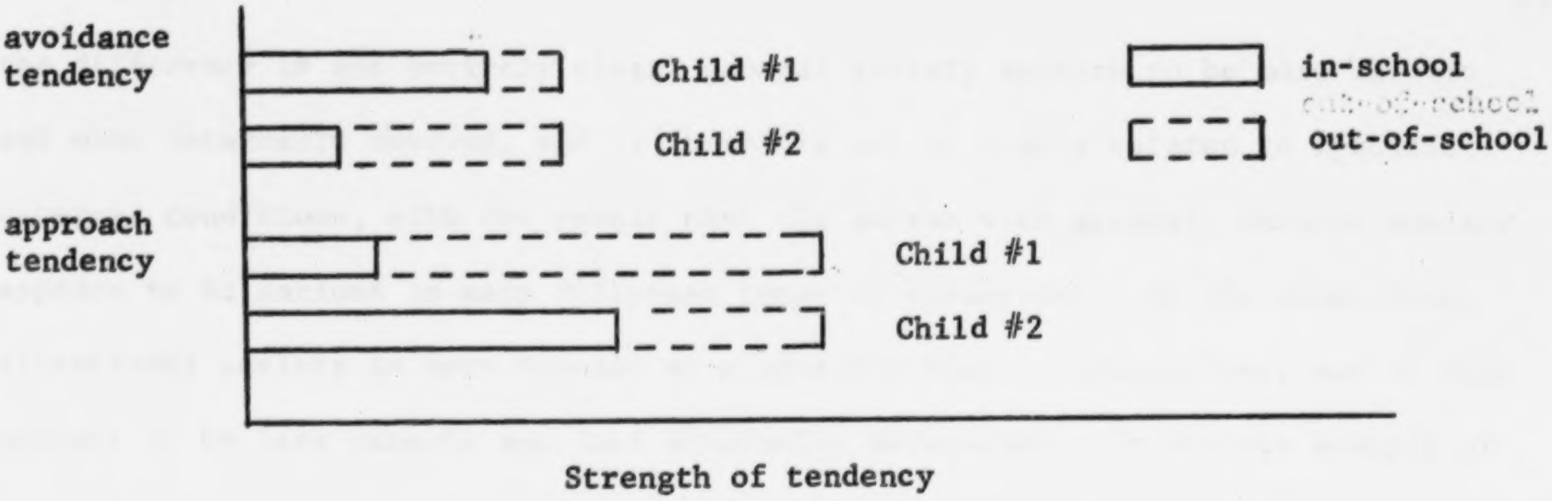


Figure 5. Hypothetical examples of subjects with equally strong approach and avoidance tendencies in school, but where in-school and out-of-school influences contribute different proportions.

In Figure 5 two children are depicted with stronger approach tendencies than avoidance tendencies, but they differ in the extent to which in-school influences are involved. For Child #1 in-school influences are more important in his avoidance tendencies, and out-of-school influences are more important in his approach tendencies. While for Child #2 the opposite is true: his out-of-school experiences contribute proportionately more to his avoidance tendencies than to his approach tendencies. If one wanted to speculate, it would not be difficult to think of differences which are likely to exist in the in-school and out-of-school experiences of these two children, but since such differences are conceptualized in detail later, no further comment is necessary at this time.

School anxiety. In taking up the concept of anxiety one is beset with a plethora of meanings attributed to the concept and a multitude of ways of measuring it. This makes the task of arriving at a definition more difficult and means that there are uncertainties associated with any position that is taken. A widely shared view of anxiety which has its roots in psychoanalytic theory, is that it is consciously experienced affect, including dread, fear, worry and their physiological concomitants, and this view was accepted as a general definition of anxiety in this project. It was also assumed that there are different sources of anxiety, and that this is one of the bases for differentiating situational anxiety from general anxiety. Although the difference is not entirely clear, general anxiety appears to be more chronic and more internally derived, and is therefore not as highly related to specific external conditions, with the result that the person with general, chronic anxiety appears to be anxious in many different types of situations. On the other hand, situational anxiety is more focused on a specific class of situations, and it thus appears to be less chronic and less internally determined. An obvious example of situational anxiety would be anxiety which is associated with a variety of school situations, i.e., school anxiety. It is probable, of course, that all school situations are not equally involved in the school anxiety of a child. In fact the school situations that are most likely to be sources of school anxiety are test and test-like situations, and Sarason and his co-workers have conceptualized these in terms of test anxiety (Sarason, et al., 1960). Although no one would deny the importance of test anxiety, a measure of school anxiety should take into account anxiety stemming from other situations in school, e.g., situations involving peer relationships. Therefore our concept of school anxiety is meant to encompass all of the situations in school which we consider to be potentially anxiety-producing for children, as indicated in Figure 6.

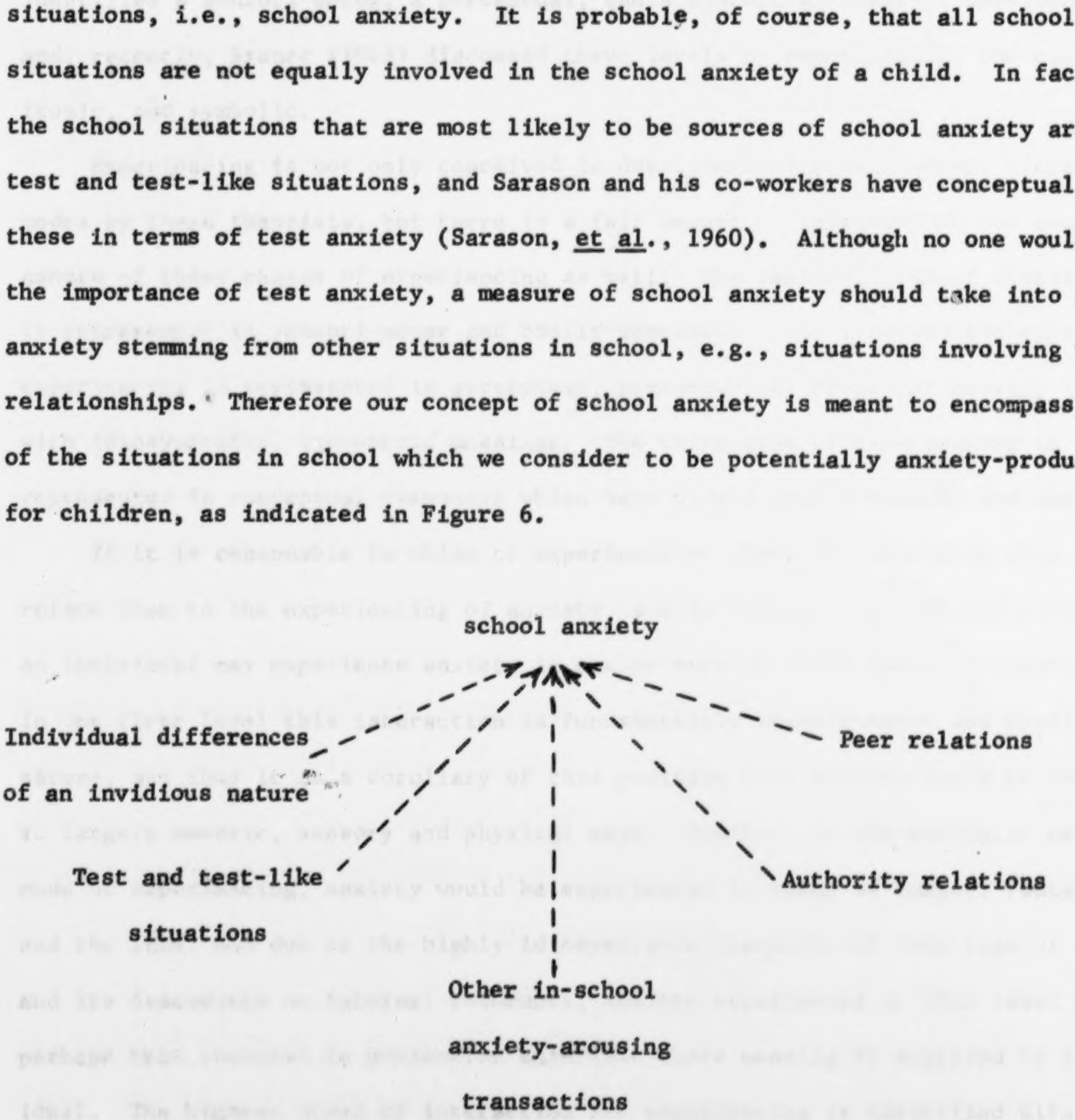

school anxiety
Individual differences of an invidious nature
Peer relations
Test and test-like situations
Authority relations
Other in-school anxiety-arousing transactions

Figure 6. Types of school situations contributing to school anxiety.

Modes of experiencing anxiety. Experiencing involves the interaction of an individual with his environment, and in analyses of experiencing from a variety of theoretical viewpoints, there seems to be a common conceptual framework, which is that experiencing has hierarchically structured, developmental phases. Sullivan (1953) referred to three modes of experiencing, the prototaxic followed by the parataxic and syntaxic. Freud (1949) organized stages of experiencing in terms of different vital organ systems and their satisfactions. Piaget (Berlyne, 1957) identifies a sensori-motor, a perceptual, and a conceptual stage of development. And, recently, Bruner (1965) discussed three levels of experiencing, the enactive, iconic, and symbolic.

Experiencing is not only conceived in developmentally determined, hierarchical modes by these theorists, but there is a fair amount of agreement on the general nature of these phases of experiencing as well. The earliest type of experiencing is represented in sensori-motor and bodily responses. The intermediate type of experiencing is represented in perceptual, preconceptual responses heavily infused with idiosyncratic, egocentric meanings. The third type of experiencing is represented in conceptual responses which have widely shared symbols and meanings.

If it is reasonable to think of experience on these three levels, then we can relate them to the experiencing of anxiety, and in interacting with his environment an individual may experience anxiety in one or more of these modes of experiencing. In the first level this interaction is fundamentally sensori-motor and physical in nature, and thus it is a corollary of this position that anxiety would be experienced in largely motoric, sensory and physical ways. Further, in the basically perceptual mode of experiencing, anxiety would be experienced in terms of images, fantasies, and the like; and due to the highly idiosyncratic character of this type of experiencing and its dependence on internal referents, anxiety experienced at this level is perhaps best revealed in projective materials where meaning is supplied by the individual. The highest level of interaction and experiencing is identified with conceptual functioning in which there is a community of shared symbolization and meaning, and at this level anxiety is experienced in terms of worries, negative evaluations, and the like.

Styles of coping with anxiety-arousing situations. Coping style is viewed as a factor mediating between stimulus (situation) and response, and the approach type of coping pattern is based on vigilance for threat, while the avoidance type of coping pattern is based on avoidance of threat. As has been pointed out elsewhere (Goldstein, et. al., 1965), and assuming that one can extrapolate to the present conceptual context, approachers and avoiders can be differentiated in terms of initial reactivity and subsequent adaptation to threatening situations. The avoider is less reactive to the initial experiences of a threatening situation, and shows less adaptation to subsequent experiences in the threatening situation, than the approacher. In addition, in psychoanalytic theory conscious anxiety is usually distinguished from unconscious anxiety, and this is frequently done by labelling unconscious anxiety as defensiveness (Ruebush, 1963). In this perspective, a highly defensive person experiences anxiety only occasionally, and then only when he is in especially threatening circumstances and his defenses are inadequate or break down and expose him to conflicts, dangerous drives, and the like.

Also, it should be noted that research from various sources suggests that defensive styles of coping can be interpreted within a broader framework which includes the so-called response biases. One basis for this point of departure is the research on repression-sensitization as a dimension of personality by Byrne and others (Byrne, 1961, 1963). Another is the shift in emphasis from treating response biases and defensiveness solely as factors mitigating against the validity of anxiety and other questionnaire measures (e.g. Castenada et al., 1956; Davidson and Sarason, 1961) to considering them as coping reactions important in their own right and as broad dimensions of personality (e.g. Wallach and Kogan, 1965; Crowne and Marlowe, 1964). In effect, it is suggested that there are two basic styles of coping with anxiety-producing situations: one is predominantly approach-oriented and is characterized by accentuation of positive characteristics which few people have, and the other is predominantly avoidance-oriented and is characterized by denial of negative characteristics which most people possess. Of course, these are likely to be interrelated to some degree in some individuals.

Sources of school anxiety. As we have already noted, school anxiety is thought to have its primary origins in the in-school experiences of children, although in recognition of Lewin's programmatic equation B=f (P,E) which is a basic paradigm and point of departure in our theory development and empirical analysis, it is believed that this relationship between school anxiety and in-school experiences is complexly determined. Therefore, in considering its origins, school anxiety is viewed as a constellation of responses which are a function of personality, the in-school (and out-of-school) environment, and the interaction of these two sets of factors.

Patterning our thinking after Lazarus (1964) who has analyzed the dynamics of threat production in a way which makes his arguments and logic appear to be useful in analyzing the problem of the development of school anxiety, it is surmised that the major stepping stone to school anxiety is failure in school. But in order for failure to exist two things must happen: the child must perceive that he has failed, and this failure must be threatening to him. To take these conditions in order, to fail is to fall short of meeting some standard recognized by the child, and accepted by him willingly because he wants to, or because he feels he has no other choice in the matter, since it is imposed by others. However, failure in matters considered unimportant by the child does not produce much threat, for a value of importance to the child must be at stake. Achievement, affiliation, and status needs represent important values to most children, and they are readily threatened by situations in which the satisfaction of these needs is jeopardized. In summary, the initiation of school anxiety depends on the child being in school situations in which needs he sees as important are aroused, and in which it is problematical that these needs will be fulfilled because of difficulties in achieving the standard of behavior and/or performance required to satisfy the needs.

Utilizing the guidelines of the theory of achievement motivation developed by McClelland, Atkinson and others (see e.g., Atkinson and Feather, 1966), a related but somewhat different view of the development of school anxiety can be conceptualized. The basic idea of their analysis is that a child who is dominated by the need to avoid school failure inhibits or avoids activities in school situations in which his need to avoid failure is aroused. However, when he is constrained by extrinsic influences to engage in activities in these school situations he overcomes this strong inhibitory tendency; but in the process of doing this he experiences anxiety, and the extent of this anxiety is proportionate to the strength of the inhibitory tendency he has overcome.

Finally, moving more definitely into the realm of psychoanalytic theory, a good example of the development of anxiety in school is found in the research by Sarason and his colleagues (Sarason, et al., 1960). Applying their line of reasoning to school anxiety, it would appear that the child who experiences anxiety in school situations in which he is evaluated by teachers, peers, and parents (either explicitly, as in test situations, or implicitly, as in peer relations), is reacting with strong unconscious hostility to the evaluator who he believes is or will in some way pass judgment on his adequacy. This hostility is in conflict with his dependency needs and is not openly expressed, but is frequently turned inward against the self in the form of self-derogatory attitudes, although in some circumstances it may be overtly directed toward others (parents, teachers, and peers). This strengthens the expectations of failure and his desire to escape such school situations. In most instances, the basis for this hostility is the child's early family experience where his behavior and achievements were evaluated unfavorably by parents, and he was frequently punished for failure to meet parental standards. Such results also may occur in school where teachers fulfill essentially the same role as a parent might.

The consequences of school anxiety. A variety of rationales are available for predicting the effects of school anxiety on intellectual, academic, and social functioning. One of these is psychoanalytic theory which, starting with the proposition that the effects of school anxiety are mediated primarily by defensive reactions, leads to predictions as to whether school anxiety will facilitate or interfere with performance in school situations. As Ruebush (1960) has noted, facilitation generally occurs when defensive reactions are compatible with situational requirements, and when they are incompatible the result generally is interference with performance. Furthermore, psychoanalytic theory is a fertile source of predictions concerning aggression, dependency, self disparagement and other personality variables as correlates of school anxiety.

Although the complications of the theory have not been altogether resolved, learning theory, utilizing Hullian constructs, has been used to derive differential predictions concerning the effects of anxiety on simple and complex performance (Spence, 1958). Generally, it has been found that anxiety facilitates performance in simple learning situations, and impedes performance in complex learning situations, although inadequacies in definitions of "complexity" plague much of this latter research (Spence and Spence, 1966). Some implications of school anxiety for learning in school situations can be elaborated within this theoretical framework, with one of the most promising lines of inquiry being the integration of the difficulty (or complexity) dimension with styles of coping, and the investigation of "incidental" learning.

By extrapolating and extending the theory of achievement motivation of Atkinson and others (see Atkinson, 1965), a number of implications for school intellectual, academic, and social behavior can be developed. One of the major concepts of this theory, translated and applied to school anxiety, is the *tendency to approach school success* (T_{ss}) which may be thought of as interest in both academic and social school situations, coupled with the intention of doing well in such situations. Continuing with the theory as developed by Atkinson and others, this tendency is considered to be a multiplicative function of the need to achieve school success (M_{ss}), the strength of the expectancy (or subjective probability) of achieving school success (P_{ss}), and the incentive value of school success (I_{ss}). Furthermore, the incentive value of school success is considered to be proportionate to the expectancy of school success, i.e., $I_{ss} = 1 - P_{ss}$.

A second concept derived from this theory of achievement motivation is the *tendency to avoid school failure*, a conception which is parallel to the preceding one, and which has the same two assumptions, namely, that the tendency to avoid school failure (T_{-sf}) is a multiplicative function of the need to avoid school failure (M_{sf}), the expectancy (or subjective probability) of school failure (P_f), and the incentive value of school failure (I_{sf}).

The third major concept based on this theory is the *resultant school-oriented tendency*, which occurs when school situations arouse both the tendency to approach school success and the tendency to avoid school failure, the resultant of the conflict between the two simply being the sum of T_{ss} and T_{-af}, remembering that T_{-af} is treated as a minus value. Thus the resultant school-oriented tendency is positive when $M_{ss} > M_{sf}$ and negative when $M_{sf} > M_{ss}$. Also in accordance with Lewin's B=f (P, E), personality is represented by M_{ss} and M_{sf}, and E is represented by P_{ss} and $1 - P_{ss}$.

Also, a special comment needs to be made about the fact that, in the development of the motive X expectancy X incentive theory by Atkinson and others, little attention has been given at the conceptual and empirical level to the role of extrinsic influences. This is especially important in our consideration of the theory, since anxiety is thought of as the result of constraints from external sources which keep the individual within the achievement-oriented situation.

Finally, as McClelland notes in his analysis of motivation (1951), the intensity of a motive is associated with three hierarchically arranged types of reactions, and considering school anxiety as a motive, activity at very low levels of anxiety intensity is restricted to wish-fulfillment, goal imagery, and similar thought processes. With increasing intensity of anxiety, goal-oriented, instrumental school activity predominates; and at levels of intense anxiety relief-oriented, defensive school activity predominates. Furthermore, there is an interaction between the intensity of a motive and its approach or avoidance nature, so that when children are basically avoidance-oriented, they shift more quickly to goal-oriented, and to relief-oriented, school activity, and they make these shifts at lower levels of motivation than when they are basically approach-oriented.

Other Major Variables
To be Studied

In preceding sections we have stated two general propositions and the rationale by which data relevant to putting the propositions to an empirical test are to be handled. These propositions are that school anxiety and the other variables to be studied are significantly related to the in-school environment, and that some of these variables may be conceptually viewed as predominantly antecedents (or causes) of school anxiety, while others are more appropriately assigned, conceptually speaking, to the role of being consequences (or effects) of school anxiety. In addition, we have endeavored to discuss key concepts in a theory of school anxiety; and now we proceed to identify major variables which have not already been specifically discussed, and briefly showing, as we go along, the theoretical and empirical _raison d'etre_ of each variables.

1. Sex

Sex differences in anxiety have been consistently obtained, and the most widely accepted explanation for this is that boys are more defensive about admitting anxiety because anxiety is ego-alien to boys and ego-syntonic to girls (e.g. Sarason, _etl al_., 1960). Support for this defensiveness interpretation has been provided through the development of the _Defensiveness Scale for Children_ (DSC) on which boys tend to obtain higher scores. However, equivocal results have been obtained with the _Children's Manifest Anxiety Scale_ using alternative approaches

(Phillips, 1966a; Phillips, 1966), although allowances must be made in comparing these results for the only moderate relationships between the CMAS and the Test Anxiety Scale for Children (the anxiety scale the DSC was used with), and for the older subjects used in the latter studies.

Sex differences in relationships obtained between anxiety and a host of school-related variables are widespread, with the results for both the CMAS and the TASC generally being more predictable for boys (Ruebush, 1963). It appears that this is partly attributable to complicated interdependencies between sex and the other variables which enter into anxiety-school relationships (Phillips, 1962; Phillips, Hindsman, Jennings, 1960; Phillips, Hindsman, McGuire, 1960.). For example, girls and boys probably use different defenses against anxiety and the defenses preferred by girls are less likely to be as maladaptive in classroom situations. Also it' appears that achievement is more often stressed in the training of boys than girls, while girls are more often given obedience and responsibility training (e.g. Sears, Maccoby, and Levin, 1957). And, in addition, the achievement of girls seems to be more often oriented toward reactions from others, with the result that they probably are more easily influenced by parents, teachers, and peers (Crandall, 1963).

2. Socio-cultural status

Cross-cultural studies have revealed the importance of social and cultural influences in determining how a child acts, feels and thinks (e.g. Whiting and Whiting, 1960), and studies of social classes and Negro and Mexican-American subcultures in this country have delineated many characteristics important to school anxiety and many of the other variables being studied (Riessman, 1962; Rubel, 1966; Landes, 1965; Bloom, Hess, and Davis, 1965; Miller and Swanson, 1960). In addition, there are important sex differences between different socio-cultural status groups, one illustration of this being the matriarchical family pattern among Negroes and the sex differentiation it produces. Finally, LC and culturally deprived children respond more readily to external stimuli than MC children, and they may be said to be more other-directed (i.e. Riesman, 1950). One implication of this is that the classroom environment probably is more crucial for them, and this has a number of consequences in relation to school anxiety and other variables being studied.

3. Adaptive requirements of the in-school environment

The interdependence between socio-cultural status and the school system is widely recognized; in fact, this condition is summarized in the often mentioned idea that the schools have a middle class bias (see, e.g., McCandless, 1961). The feminine orientation of the school culture also has not escaped notice, and it probably is associated with differential treatment, expectations, and the like, for boys and girls (especially in elementary schools). In juxtaposing these two ideas one is led to the generalization that sex and socio-cultural status together define different in-school environments, and it is evident that this has many implications for theory development and hypothesis testing in this project. Also, the degree of structuring of school situations seems to be a factor in the facilitating and interfering effects of anxiety, with the interfering effects of anxiety generally being less severe in well structured situations, (Sarason, et. al., 1960). It is well to point out, in this connection, that there is evidence that the school experiences of LC, Negro and Mexican-American children are more structured than those of other socio-cultural groups (see Riessman, 1962). Lastly, there probably are differences in the degree of evaluation-orientation of different types of school situations, different classroom groups, and different schools. That is, there is a standard of behavior and achievement required which usually is determined by the teacher in conjunction with peers, parents, and others in the school community; and the extent to which success (and failure) in these different situations, classroom groups, and schools are dependent upon judgments made in terms of such standards is the extent to which evaluation-orientation exists in these circumstances. For example, in going from social situations, to academic situations (e.g. seat work, project activity), to test situations there usually is increasing evaluation-orientation, and the implications of such differences for school anxiety are not difficult to work out.

4. Sex-linked interests, attitudes, and perceptions.

The acquisition of sex-typed behaviors in early childhood, and their pervasive and profound influence on the developing child, have been extensively investigated (e.g. Kagan and Moss, 1962). Also, the essentially feminine orientation of the culture of the school has been widely noted (e.g. Riessman, 1962; Sexton, 1961). This, coupled with studies of masculinity-femininity which indicate that the appropriateness of sex-typed behaviors is more critical for boys (Gotts and Phillips, 1966), suggests that deviancy in sex-related characteristics may be predictive of anxiety-school relationships, especially for boys. Also, it is noteworthy that the LC and racial-ethnic minority child is less likely to have experienced in the behavior of parents and other adults in his non-school environment the essential ingredients of the role of the teacher. In addition, these children acquire parental and adult sex role expectations which are likely to be at variance with the teacher's role, and this is especially true when the teacher is a woman, as is usually the case in the elementary school.

5. Intellectual and academic functioning

A linkage between anxiety and intelligence, achievement tests, and teacher grades is quite consistently reported, and the interpretation of this linkage which is most prevalent is traceable to Sarason et. al., (1960) who take the position that anxiety is the etiologically significant factor. One of the arguments on which their case rests is that the relationship between anxiety and intelligence test performance depends on the situational context; that is, when a test is administered in a highly test-like atmosphere the relationship obtained is greater than when a more neutral, relaxed atmosphere is achieved (Zweibelson, 1956). Another type of argument for interpreting anxiety in this way involves matching children with high and low anxiety on the basis of intelligence. Then if intelligence is the causal factor, rather than anxiety, these matched groups should not differ in relevant intellectual behavior. But Waite, Sarason, Lighthall and Davidson (1958) found a significant relationship between anxiety and paired associate learning, with low anxious subjects matched in intelligence learning more rapidly. And in another later study Davidson (1959) found a significant relationship, limited to boys, between grades in school and anxiety, with intelligence held constant. However, the evidence adduced up to now in behalf of this position has been circumstantial, and there is suggestive evidence that the relationships are complicated by sex and sociocultural factors (e.g. Phillips, 1962). And, what is perhaps a more critical point, there are, to the writer's knowledge, no controlled, systematic studies of the relation between anxiety and school learning. Also, it has been noted that complexity and other characteristics of intellectual and achievement tasks, and the conditions under which test performance occurs, are significant influences (Ruebush, 1963).

6. Peer acceptance and rejection.

There is considerable evidence of a pervasive peer group influence on social and academic achievement in school (e.g. Coleman, 1961), and there have been a number of studies of anxiety and sociometric status (Ruebush, 1963). A recent work by Katz (1964) is an excellent example of the kinds of theoretical propositions which can be developed involving peer influence in school. For example, the desire to affiliate under stress or anxiety is documented in several studies (Schacter, 1959), and it would appear that affiliation with friends is anxiety-reducing, leading to the anticipation that peer status is more critical to the anxious child than the non-anxious child. Translated to school anxiety, this suggests the following: anxious children should choose the more popular peers and reject the more unpopular peers, and since highly anxious children are in greater need of peer affiliation, peer rejection should increase their anxiety, and peer acceptance should decrease it. A further implication of this trend of thought is that peer rejection and peer acceptance should be more highly related to intellectual and academic performance in school among anxious than among non-anxious children.

7. Personality characteristics and processes revealed in observations of school behavior.

The self-concept has assumed a central importance in personality theory, and it has been subjected to a great deal of research (Wylie, 1961), although much equivocation is required in assessing some of the results and implications. However, there are two aspects of self-concept, self-disparagement and feelings of inferiority, which have been consistently related to anxiety (Ruebush, 1963). Likewise, there have been a number of studies relating dependency, aggression and other dimensions of interpersonal relations to anxiety (Ruebush, 1963), and there is a large clinical literature dealing with different types of learning and behavior problems and neurotic symptoms in school (e.g. Blanchard, 1946; Klein, 1949; Pearson, 1952). Also, there is some evidence that personality variables behave like moderator variables, and are more functionally related to the academic and intellectual behavior of girls and MC children than boys and LC children, respectively (Crandall, 1963). And, finally, Cattell and his associates (1966) have shown that anxiety is a personality trait which is distinct from neuroticism, even though it is a major component of the neurotic syndrome.

Chapter 2

Description of Methods and Instruments Used

The Research Setting

Initially it was apparent that a school system which served the needs of this project was close at hand, and this was the Austin Independent School District, and it was the obvious choice for our endeavors. One of the advantages of working in the Austin public schools was that close coordination and supervision of our research effort was possible, and this was particularly important in view of the large amount of data which needed to be collected according to a prearranged, tightly organized schedule. Another advantage was that the Austin school system was large and diverse enough to have the full range of socio-economic and racial-ethnic groups available and the importance of this lies in the fact that research on anxiety has typically used only MC children or college students as subjects.

The Elementary Schools Selected. Eight Austin elementary schools were involved in this project, and these schools were selected from all the elementary schools available in Austin in each of several classifications at the time the project was initiated in 1964. These classifications, which were derived on the basis of a careful reconnoitering of school attendance areas, consultation with school officials, and the use of achievement test data, included the following: Anglo-American, predominantly MM class socio-economically; Anglo-American, predominantly UL class socio-economically; Negro-American, predominantly LC socio-economically; Mexican-American, predominantly LC socio-economically; racially and ethnically mixed, one LC socio-economically, and the other predominantly MC. Within the two Anglo-American classifications there were two schools selected, one in an older, stable area of the city, and the other in a newly developed area of the city. The next two classifications consist of one school each, and the last classification has two schools, one with a majority of Mexican-American children and strongly LC oriented, and the other with a majority of Anglo-American children and MC oriented. It was not possible to select these schools on a strictly random basis, however; for example, there were only two schools in the fourth category, so they were both chosen. In each of the other categories after a pool of 2-4 schools were initially determined to be representative, one (or two) of these was selected in consultation with Austin Independent School District officials. These consultations took into account other activities and research already going on or contemplated which might interfere with the project. Later, the fourth grade achievement test results for the preceding two years were examined for all elementary schools in Austin to ascertain the representativeness of the choices made, and these data are shown in Table 3.

Table 3.

Overall Median MAT Grade Equivalent (September testing) of each Austin Elementary School, based on Data for 1962-63 and 1963-64

Classification of School	Overall Median Grade Equivalent of Each School
Negro, predominantly LC	2.8, 3.0, 3.0, 3.2, 3.4, 3.4, 3.4
Mexican-American, predominantly LC	2.8, 3.0, 3.3, 3.4, 3.4, 3.4
Racially and ethnically mixed, predominantly Mexican-American and LC	3.2
Racially and ethnically mixed, predominantly Anglo and MC[1]	4.4
Remainder of the Austin Elementary Schools	3.4, 3.6, 3.6, 3.8, 3.8, 3.8, 3.9, 3.9, 3.9, 4.1, 4.2, 4.2, 4.3, 4.4, 4.4, 4.4, 4.4, 4.4, 4.5, 4.5, 4.5, 4.5, 4.6, 4.6, 4.7, 4.7, 4.9, 5.0, 5.0, 5.2

Note::The eight project schools are underlined.

[1] When a small Negro school was closed in the second year of the project, the complexion of this school changed somewhat.

With the exception of schools representing upper middle class areas of the city, it is apparent that other social class and racial-ethnic areas of the city are adequately represented. The exclusion of these upper middle class schools was deliberate, being based on their already heavy involvement in other projects and special activities.

For reasons of practicality the size of the schools was a factor in the selection process, and an effort was made to select schools with three fourth grade classes, the grade level at which the project was initiated. However, in one school there were only two fourth grade classes, and in another school enrollment was underestimated and an additional combination fourth-fifth grade class was needed, these fourth graders being tested but excluded in analyses. Altogether there were 23 fourth and 23 fifth grade classes involved in the first and second years of the project, and a total of approximately 600 children were involved in each of these two years, about one-fourth of this total being in each of the major socio-cultural status groups. Of course, as a result of in-and-out school mobility the sample in fifth grade was not composed entirely of children who were in the sample in fourth grade, and obviously the degree of mobility varied from one socio-cultural status group to another. In addition, absences on the days on which tests were given further decreased the number of children for whom particular combinations of data were available.

Sources of project data. Data for this project were obtained from three different sources: the cumulative records, the children themselves, and their teachers. The cumulative records were consulted for information concerning the children's previous school experiences in grades 1-3, and for information on some personal characteristics of the children. Also, the children were asked to respond to a self report instrument consisting of 198 items which was administered on four different occasions. In addition, the children were asked to nominate their peers for a variety of situations, and this was done on four different occasions. Also, standardized achievement and intelligence tests were responded to by the children on four different occasions. Finally, the teachers were asked to nominate children for a wide variety of behavioral characteristics, as well as to rank them with respect to certain school behaviors, and this was done on four different occasions. At the same time, teachers were asked to repeat certain of these nomination forms so as to obtain reliability data, and this was done on each of the four occasions.

Schedule of administration of instruments. A decision had to be made with regard to the order in which the instruments were to be administered, and although a randomized rotation design was contemplated at the beginning, it soon was apparent in discussions with teachers and principals that this was not feasible. Nor was it possible to keep the time between tests completely constant from class to class, and from occasion to occasion. Actually what was accomplished with only minor exceptions was a constant order of administration of the instruments and roughly uniform time periods in the testing sequence. Overall, the administration of all the instruments was spread out over a period of about three weeks, beginning the third week in September at the beginning of the school year, and the third week in April at the end of the school year. The Metropolitan Achievement Tests were administered by the teachers in all instances with some proctoring and monitoring by the project staff, and all other instruments were administered by the project staff with one exception, which was in the Fall, 1964, when psychometrists from the Guidance and Counseling Office assisted the project staff in administering the California Test of Mental Maturity. The schedule of administration of the instruments is shown in Table 4, and it should be noted that, with only minor deviations, the same schedule was followed during both school years. Also, it should be pointed out that two special instruments were administered, one in the Fall, 1965, and the other in the Spring, 1966.

The Children's School Questionnaire (CSQ)

One source of data in this project was the Children's School Questionnaire (see Appendix A) which consists of 198 questions orally read to the children in each classroom group. Oral presentation was used to take advantage of the children's higher oral than reading comprehension level, the relatively smaller variability in children at this age in oral comprehension, compared to reading comprehension, and the greater

Table 4.

Schedule for Administration of Regular Project Instruments
at the beginning and end of the 1964-65 and 1965-66 School Years

Sequence of administration of instruments
First week of testing
Children's School Questionnaire, Form 1 (administered by project staff on first day)
Metropolitan Achievement Test (administered by teachers, with some assistance from project staff, on second - fifth days)
Second week of testing
Children's School Questionnaire, Form 2 (administered by project staff on first day)
California Test of Mental Maturity (administered by project staff, with assistance from school psychometrists in Fall, 1964, on second - fifth days)
Third week of testing
Children's School Questionnaire, Form 3 (administered by project staff on first day)
Peer nomination form (administered by project staff on second - third days)
Teacher nomination forms (administered by project staff on second - fifth days, with selected forms repeated about a week later)

control over response rate, etc. which one has in oral administration. The items for the questionnaire were obtained from various sources, including the *Test Anxiety Scale for Children* (Sarason, *et al*., 1960), the *Achievement Anxiety Scale* (Stanford, Dember, and Stanford, 1963), the *Audience Anxiety Scale* (Paivio, Baldwin, and Berger, 1961), the *Defensiveness Scale for Children* (Lighthall, 1963), and the *Children's Personality Questionnaire* (Porter and Cattell, 1963). In addition, a number of other items were prepared by the project staff to measure aspects of the concepts of school anxiety and approach and avoidance styles of defensiveness as delineated in Chapter 1.

The items representing each of these categories were randomly split into thirds and assigned to Forms 1, 2 or 3 in a random order. After this was accomplished each form of the CSQ consisted of 66 items. One of the purposes in doing this was the practical necessity of dividing the time required for administration of all 198 items into periods of appropriate length for fourth and fifth graders. As a result, each testing session lasted between 20-30 minutes, the time required depending on various factors, including the number of questions orally repeated. A more fundamental reason, however, involved the rationale of the study, which was the desire to "randomize" as much as possible effects peculiar to a particular testing sessions, and effects associated with item position. It seemed especially crucial to obtain measures of school anxiety at the beginning and end of the school year which were maximally representative of these beginning and end periods of time, and minimally representative of the particular situational and positional contexts in which the responses were obtained. These hypothetical relationships are schematically represented in Figure 7.

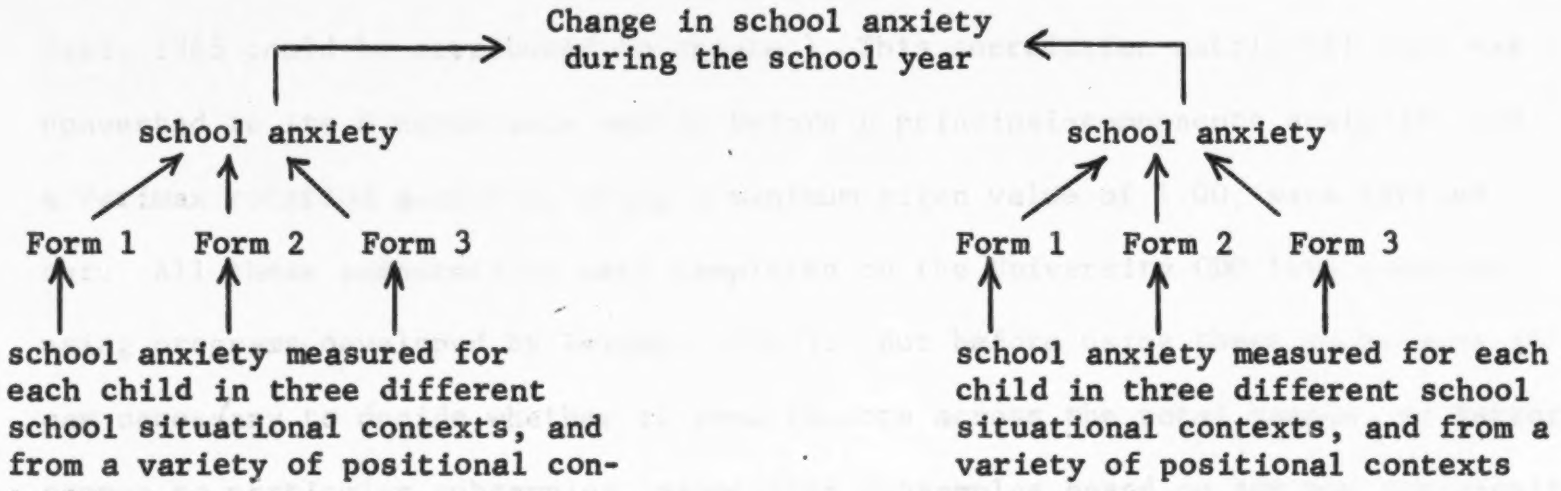

Change in school anxiety
during the school year
school anxiety
school anxiety
Form 1
Form 2
Form 3
Form 1
Form 2
Form 3
school anxiety measured for each child in three different school situational contexts, and from a variety of positional contexts
school anxiety measured for each child in three different school situational contexts, and from a variety of positional contexts
(beginning of school year)
(end of school year)

Figure 7. Hypothetical representation of the derivation of school anxiety scores which are minimally influenced by differences in situational and positional contexts.

Procedures used to analyze CSQ item responses. Although items were included from instruments developed by others, this was not done so that scores derived from these items could be included in analyses. Instead, these pools of items were included as benchmarks in the derivation of sets of items measuring concepts which were part of the project, but which were at the same time related to concepts for which others had developed instruments. As an illustration of this strategy, the concept of school anxiety included anxiety associated with test and test-like situations, so it was likely that items of the TASC would constitute a core of items to which other items designed to tap additional sources of school anxiety would adhere.

With this composite of 198 items a strategy of empirically determining which items went together was pursued. Since item responses were dichotomous, a correlation matrix was determined by computing phi coefficients, realizing, of course, that the size of phi was severely restricted in cases where proportions were extreme. However, as Table 5 clearly shows, proportions above .8 and below .2 were the exception rather than the rule. (In passing it should be noted that Chi square tests of significance indicated that differences observed in Table 5 between Fall, 1964 and Fall, 1965 could be attributed to chance.) This correlation matrix (R) then was converted to its G covariance matrix before a principal-components analysis, and a Varimax rotation analysis, using a minimum eigen value of 1.00, were carried out. All these computations were completed on the University CDC 1604 computer using programs developed by Veldman (1965). But before using these techniques it was necessary to decide whether to seek factors across the total sample, or factors common to particular subsamples, especially subsamples based on sex and socio-cultural status. In terms of the general problems to be investigated, and the requirements of image and factor analytic techniques, it seemed that the most generally meaningful factors would be those derived from the total sample. So this is what was done.

However, due to the limitations of the CDC 1604 computer it was not possible to factor analyze the G covariance matrix of all 198 items at one time; so instead, all the items on Form 1 and the first half of the items on Form 2 were analyzed together,

Table 5.

Distribution of the items of the CSQ in Terms of the Proportion Responding in the "Yes" (or Comparable) Direction in the Fall, 1964 and Fall, 1965

Proportion	Fall, 1964				Fall, 1965			
	Form 1	Form 2	Form 3	All	Form 1	Form 2	Form 3	All
.90-.99	3	1	1	5	2	1	1	4
.80-.89	4	3	3	10	5	4	4	13
.70-.79	7	6	7	20	11	3	9	23
.60-.69	7	10	7	24	6	10	2	18
.50-.59	8	7	10	25	7	7	10	24
.40-.49	15	15	19	49	11	14	8	33
.30-.39	10	17	12	39	9	9	18	36
.20-.29	8	7	4	19	10	15	14	39
.10-.19	4	0	3	7	5	3	0	8
0-.09	0	0	0	0	0	0	0	0
Total	66	66	66	198	66	66	66	198

with this process being repeated for the last half of the items on Form 2 and all the items on Form 3. Then the items with factor loadings of .40 or higher in the two Varimax rotation analyses were selected for a subsequent analysis. Finally, in order to check on the stability of the factor structure this procedure was followed with CSQ data collected in the Fall, 1964 and again in the Fall, 1965. Data concerning the percent of variance accounted for in this series of image analyses are presented in Table 6.

To establish the degree of similarity between the Fall, 1964 and Fall, 1965 factor structures, neither Ahmavaara's nor Kaiser's method of comparing factor structures and studies could be used, for neither the same items nor the same subjects appeared in each of the series of image analyses. Instead, factors obtained on the two occasions

Table 6.
Percent of Variance Accounted for in
the Fall, 1964 and Fall, 1965
CSQ Image Analyses

Source of Variance	Fall, 1964			Fall, 1965		
	Form 1+½ Form 2	½ Form 2+ Form 3	Composite	Form 1 +½ Form 2	½ Form 2+ Form 3	Composite
Total Common	49.10	51.45	53.95	50.09	53.45	55.84
Common extracted	54.62	58.26	65.47	52.57	58.13	63.34
Total extracted	26.82	29.97	35.32	26.33	31.07	35.37

were examined for common items with factor loadings of .40 or higher. Doing this it was soon apparent that four factors obtained in the Fall, 1964 were similar to four factors obtained in the Fall, 1965, since in each of these pairs of factors more than three-fourths of the items had loadings of .40 or higher on both factors (for school anxiety 90 per cent did.). Therefore, to select the items to represent each factor, those having .40 or higher loadings on what appeared to be the same factors on the two occasions were put into the initial pool of items representing the factor. In addition, if an item had a .40 or higher loading on only one of the two years its loadings in the other year were examined, and if it had a loading between .30 - .40 on the right factor, and no similarly high loading on any other factor, it was added to the final pool. In this way sets of items were obtained for four different factors which had a reasonable claim to stability across occasions separated by a full year. These factors are tentatively identified, and the items representing them are listed, in Table 7, and it should be noted that 26 of the 30 items of the TASC appeared in the final pool of items for the school anxiety factor. And, in general, these items were among those with the highest loadings on this factor, which supports the contention (in Chapter 1) that test anxiety is of central importance in school anxiety. Also, it should be pointed out that all factor scores were derived by assigning each item a weight of one and summing the item responses. The simplicity of this method of scoring, and the stability of the results obtained justified its use (Horn, 1965). In addition, it was earlier pointed out that a number of items from the CPQ were included (with permission of the authors) in the CSQ. The purpose of doing this was to obtain a measure of the concept of proneness toward neuroticism (PTN) using the research of Cattell and Scheier (1961) as the rationale for determining which dimensions of the CPQ to select items from. Also, anxiety is a major component of neuroticism, so that it is conceptually permissible to think of the PTN score as heavily infused with general anxiety. In connection with the PTN items one further point needs to be made, which is that these items did not cluster together and form a factor in the image analyses. But this is not surprising, since the dimensions which the PTN items represent were factorially derived, and each dimension was represented in the CSQ by only a few items. Finally, it should be noted that, in accordance with the rationale discussed in Chapter 1, the items of the defensiveness factor were conceptually differentiated into two subgroups, one identified with the approach style of defensiveness, and the other identified with the avoidance style of defensiveness. These items are marked in Table 7, and one item (1-25) was excluded in this conceptual breakdown.

A special problem occurred in conjunction with the CSQ. Since it was split into three forms the chances of being absent on one of the days when a form was administered was increased three-fold, and this created a problem not faced in conjunction with other instruments. After considerable thought and some experimenting it was decided that if a subject responded to two of the three forms of the CSQ on any one of the four occasions, his score on the third, or missed, form could be validly estimated. What was required was the demonstration of the equivalence of the responses of subjects who took all three forms with the responses of subjects who took only two of the three forms. So scores for each of the factors of the CSQ were computed for Form 1, 2, and 3 separately, and these results are shown in Table 8 which provides the means and standard deviations of these separate scores, and their associated t values, for subjects who took all three forms, and for subjects who took combinations of only two of the forms, in the Spring, 1966.

Table 7

Composite of Items Representing the Four Most Significant Factors Found in Images Analyses of the CSQ

Form and Item No.	Items
Factor A:	*School Anxiety*
1-5*	Do you worry when the teacher says that she is going to ask you questions to find out how much you know?
1-8*	Do you sometimes dream at night that you did poorly on a test you had in school that day?
1-10*	Do you worry a lot *while* you are taking a test?
1-12	Is it hard for you to do as well as the teacher expects you to do in class?
1-16*	Do you sometimes dream at night that the teacher is angry because you do not know your lessons?
1-20	Do you often have the fear that other children might think you dumb?
1-27	Do you usually feel nervous when speaking to the principal?
1-30	Are you sometimes afraid of expressing yourself in class because you think you might make a foolish mistake?
1-38	Are you often worried that the teacher will scold or punish you?
1-40	When it is your turn to get up and recite in class, do you feel your heart pounding hard?
1-42*	When you are at home and you are thinking about your arithmetic lesson for the next day, do you become afraid that you will get the answers wrong when the teacher calls upon you?
1-56*	Do you worry about being promoted, that is, passing from the ---- grade to the ---- grade at the end of the year?
1-62*	Do you worry a lot *before* you take a test?
1-63*	Do you think you worry more about school than other children?
1-65*	*After* you have taken a test do you worry about how well you did on the test?
1-66*	If you did very poorly when the teacher called on you, would you feel like crying even though you would try not to cry?
11-3	Do you ever worry about knowing your lessons?
11-5*	When the teacher asks you to get up in front of the class and read aloud, are you afraid that you are going to make some bad mistake?
11-6	Do your knees shake when you are asked to recite in class?
11-11	Do you sometimes have a fear of fainting in class?

Table 7 cont.

Form and Item No.	Items
11-12*	When you are home and you are thinking about your reading lesson for the next day, do you worry that you will do poorly on the lesson?
11-14	Do you sometimes shake all over when you are asked to recite in class?
11-16	When the teacher fails to notice and comment on your work does it make you unhappy?
11-17*	When you are in bed at night, do you sometimes worry about how you are going to do in class the next day?
11-20	Does your teacher sometimes give you a lower grade than you think you deserve?
11-26	Do you always feel uncomfortable when you do not know what is expected of you in class?
11-28*	Do you sometimes dream at night that you are in school and cannot answer the teacher's question?
11-33	Does your voice sometimes shake when you are asked to recite in class?
11-35	Is it hard for you to tell someone you're scared?
11-38	Do you have a hard time keeping up with the other students in class?
11-45	If anything happens which tends to make you look foolish, do you tend to think about it for a long time afterwards?
11-46	Do you worry that you might forget your lines when you recite a poem in front of the class?
11-47	Do some of your friends think you are a sissy because you make good grades?
11-50	Do you dread choosing up sides to play games because you are usually one of the last ones chosen?
11-52	Do you ever worry about something bad happening to someone you know?
11-53*	When you are taking a hard test, do you forget some things you knew very well before you started taking the test?
11-54*	Do you wish a lot of times that you didn't worry so much about a test?
11-56*	When you are taking a test, does the hand you write with shake a little?
11-58	Have you ever been afraid of getting hurt?

Table 7 cont.

Form and Item No.	Items
11-63	Do the students that do poorly on the tests that the teacher gives lose the approval of the teacher?
111-2	If you think someone doesn't like you, does it bother you?
111-6	When someone is slow, does it bother you; or does it not bother you?
111-11	When you've done something wrong, is it hard for you to say you're sorry?
111-13	Do you sometimes worry about being different from many of the children in your class?
111-14	Do you usually feel awkward meeting new students who have just come into the class?
111-16*	When the teacher says that she is going to find out how much you have learned, does your heart begin to beat faster?
111-17	Are you sometimes afraid of getting into arguments?
111-19	Do some children in the class say things to hurt your feelings?
111-22	Does it seem like most of the children in the class never pay any attention to you?
111-23*	When the teacher says that she is going to give the class a test, do you get a nervous or funny feeling?
111-25	Do you dislike reciting in class because you might make a mistake and others would laugh at you?
111-26	Do you ever worry about what is going to happen?
111-29	When one of your friends won't play with you, do you feel badly?
111-32	Is it hard for you to have a good report card as your parents expect you to have?
111-33	Do some children in the class seem to get angry when you do better than they do?
111-34	Are you afraid that other children will laugh at you when you show your work to them?
111-35	Are you frequently afraid you may make a fool of yourself?
111-36*	Are you afraid of school tests?
111-39*	When the teacher says that she is going to give the class a test, do you become afraid that you will do poorly?
111-40	Do you worry a lot about your school work because you are afraid your parents might find out you are not doing as well as they expect you to do?

Table 7 cont.

Form and Item No.	Items
111-41	Do you ever worry about what people think of you?
111-42	Do you feel nervous if the whole class watches you when you are making something?
111-43*	Do you sometimes dream at night that other boys and girls in your class can do things that you cannot do?
111-44	Do your classmates sometimes make fun of the way you look and talk?
111-47	Do you feel nervous when others look at work you have done?
111-49*	When the teacher is teaching you about reading, do you feel that other children in the class understand her better than you?
111-50*	While you are on your way to school do you sometimes worry that the teacher may give the class a test?
111-52	Do you ever worry that you won't be able to do something that you want to do?
111-53	Are you often worried that you might be sick in class?
111-55*	While you are taking a test do you usually think you are doing poorly?
111-58*	When the teacher asks you to write on the blackboard in front of the class, does the hand you write with sometimes shake a little?
111-61	Do you feel cross and grouchy sometimes?
111-62	In your school work, do you often forget; or do you feel sure you can remember things?
111-65	When you recite in class do you often wonder what others are thinking of you?
Factor B:	Sex-linked Interests, Attitudes
1-36	Do you sometimes feel like hurting someone?
1-50	Are you as good in games like kickball as other students in class?
11-42	Which story would you like better, how Indians make clothing; or one about killing Indians? (Rs)
1-44	Would you rather read a book; or play ball? (Rs)
11-49	Would you rather collect stamps; or play football? (Rs)
11-55	Would you rather be a tapdancer; or a soldier? (Rs)
111-3	Would you rather listen to music; or ride a bicycle? (Rs)

Table 7 cont.

Form and Item No.	Items
111-8	In a play would you rather be a speed pilot; or a famous writer?
111-18	Would you rather draw pictures of birds; or hunt birds? (Rs)
111-20	If two children were fighting on the playground, would you go tell the teacher; or let them fight? (Rs)
111-57	Would you rather work with books in a library; or be a General in the Army? (Rs)
Factor C:	Self Disparagement, in Relation to Peers
1-11	Can others do things better; or can you do most things well?
1-23	Are most children sometimes unkind; or are most children kind to you? (Rs)
1-47	Do people think you make many mistakes; or few mistakes?
1-51	Do your classmates make fun of you for the way you play in school games?
1-55	Do the other children in the class like you? (Rs)
1-59	Since you started school, have you ever felt like crying?
11-36	Does the teacher in class seem to like you?
11-41	When the children are upset and cry because they do not have their lessons do you feel sorry for them?
11-57	If you are in a hurry to finish your lesson and are not sure how to spell a word, do you usually stop and look it up in the dictionary?
11-60	Do you generally do what your friends like to do even though sometimes you want to do something else?
Factor D:	Defensiveness
1-2	When you see other children having trouble doing an assignment do you wish you could go over and help them? (Ap)
1-4	Do you always think that mother's way of doing things is better; or do you sometimes think your own way is better? (Ap)
1-15	Do you ever worry? (Av)
1-17	Do you always raise your hand in class when you know the answer? (Ap)
1-24	Are you sorry for some of the things you have done? (Av)
1-25	Do you like to play in the snow?
1-29	Are you ever unhappy? (Av)

Table 7 cont.

Form and Item No.	Items
1-39	Do you pay close attention to what the teacher says when she explains something? (Ap)
1-44	When you are working in a group, do you usually volunteer for more work than anyone else in the group? (Ap)
1-45	When you make something in class, do you try to make sure that all the other children see it? (Av)
1-49	Do you wish that your teacher paid more attention to you? (Av)
1-53	Has anyone ever been able to scare you? (Av)
1-57	Do you often wish the teacher would slow down until you understand what she is saying better? (Av)
1-58	Does your mother bring cookies, help at class parties, and do other things like the mothers of the other children in class? (Ap)
11-2	When someone scolds you, does it make you feel badly? (Av)
11-4	Do you try to be one of the best students in your class? (Ap)
11-13	When you hurt somebody's feelings, does it make you feel badly?
11-19	When the teacher gives an assignment do you get busy on it right away? (Av)
11-22	When someone misses school because of illness do you try to be the first one to help him catch up? (Ap)
11-25	Do you hate to miss school because you don't like to get behind in your work? (Av)
11-29	Do you work hardest when you know that what you do will be compared with what other students in class do? (Av)
11-30	Do you like to go on trips with your mother and father? (Ap)
11-43	Do you get angry when you are working on something important in class and someone interrupts you? (Av)
11-48	Do you lose your temper sometimes? (Av)
111-7	To get others to like you do you try to find nice things to say about them? (Av)
111-9	Do you get as much approval from the teacher in class as you would like to get? (Ap)
111-24	Before turning in school work do you always make a last minute check for mistakes? (Ap)
111-27	Do you expect to do better school work in the future than you have in the past? (Av)

Table 7 cont.

Form and Item No.	Items
111-28	Do you get along well with the teacher in class? (Ap)
111-30	Do you feel it is important to think about how you can get people to like you? (Av)
111-31	Would you like to represent your class in a contest between rooms even if it meant extra work for you? (Ap)
111-37	When you have done well on something, do you feel pleased with yourself even when no one else in class notices what you have done? (Ap)
111-38	If a child is new in class and is having trouble making friends do you make a special effort to be friendly to him? (Av)
111-46	Do you work with others every chance you get in class? (Ap)
111-51	Do you do extra work for the teacher whenever you have the opportunity? (Ap)
111-59	Do you get as much approval from other children in class as you would like to get? (Ap)
111-63	Do you feel terrible if you break something which belongs to somebody else? (Av)

Note: Items of the school anxiety factor marked with an asterisk (*) are in the TASC, and items marked with an Rs were scored in the reverse direction. (In all other instances, the yes or first alternative was assigned a value of one.) Also, items of the defensiveness factor marked by an Ap were included in the approach style of defensiveness score, and items marked by an Av were included in the avoidance style of defensiveness. (Av items are reversed in direction of scoring, a "no" being scored as one.)

Inspection of Table 8 indicates that these separate factor scores are in fact comparable in most instances, so that it is possible to predict a subject's total score on a factor from his responses to two of the three forms. Although these findings apply only to the Spring, 1966 data, it is assumed that similar results would have been obtained on the other three occasions.

Table 8.

Means, Standard Deviations and associated t tests for subjects who took all three forms in comparison with subjects who took only two forms of the CSQ in the Spring, 1966

Form and Factor	Ss taking all three forms (N=507)		Ss taking Forms 1 and 2 only (N=25)			Ss taking Forms 1 and 3 only (N=33)			Ss taking Forms 2 and 3 only (N=36)		
	$\bar{X}$	s	$\bar{X}$	s	t	$\bar{X}$	s	t	$\bar{X}$	s	t
Form 1											
Factor A	5.77	4.24	5.12	4.03	.79	8.12	4.82	2.72			
B	1.36	.69	1.32	.69	.26	1.61	.61	2.26			
C	1.45	1.36	1.12	1.24	1.30	1.88	1.62	1.49			
D	9.23	2.26	9.44	1.73	.58	9.52	2.25	.71			
Form 2											
Factor A	7.21	5.56	6.96	5.49	.22				8.06	5.29	.92
B	2.76	1.33	2.84	1.34	.30				2.75	1.36	.03
C	1.13	.87	1.40	.82	1.64				1.28	.97	.91
D	7.01	2.14	7.32	1.75	.86				6.91	2.18	.24
Form 3											
Factor A	10.81	8.20				15.79	8.35	3.30	11.83	7.82	.76
B	3.02	1.58				3.12	1.62	.34	3.03	1.61	.01
C	(No items from this form)										
D	9.15	3.02				9.88	2.71	1.49	9.69	2.52	1.24

Sociometric Nominations

Another source of data was children's nominations of other children in the classroom group for a series of five situations. To do this the usual sociometric approach was employed except that both positive and negative choices were obtained, and choices were restricted to the same sex, i.e., boys chose only boys, and girls only girls. The reason for this latter decision is that status with one's own sex, especially at this age level, is likely to be more discriminating than status with the opposite sex. For example, a boy who is nominated positively by six boys probably enjoys more status than a boy with six positive nominations split equally among boys and girls. With regard to obtaining both positive and negative nominations, there is evidence that a positive nomination is not simply opposite in meaning from a negative nomination (e.g. Phillips and DeVault, 1955). For example, poor performance in school may contribute to peer rejection, even though good performance does not contribute to peer acceptance. Obviously, this line of reasoning also rules out the practice of combining positive and negative nominations into a single score. Empirically, however, positive and negative nomination scores may prove to be so highly intercorrelated as to negate most of the preceding logic, but that is a decision which will be dealt with when the relevant data are examined.

The five situations for which positive and negative nominations were asked for are shown in Appendix A. In asking for negative nominations care was taken not to suggest that the children ought to make such nominations. This indirect, oblique approach is illustrated by the following item: "Suppose that the teacher selected someone to work with you, _if_ there is someone you hope she won't select please write his name in the blank." It should be noted that the children were permitted to nominate only one child for each situation, although the same child could be positively, or negatively, nominated for more than one situation, but he could not be nominated for both a positive and negative situation. To facilitate accurate identification of children, first names (and last initials when necessary) were written on the blackboard with boys in one column and girls in the other, and each child's name was pronounced out loud. If a child knew who he wanted to nominate but couldn't find his name on the blackboard he was quietly helped. In a few instances the assistance of the teacher was necessary later in order to decipher nominations because of illegible handwriting, poor spelling, and the use of nicknames.

In deriving a score, the first procedure involved totaling the number of positive nominations, and the number of negative nominations, received from all children (of the same sex). Then the number of positive nominations, and the number of negative nominations received from different children (of the same sex) was tabulated. The difference between these two approaches is that if a child received five positive nominations from the same child, i.e., he was nominated by this child for every positive situation, in the first method of scoring he gets five points, and in the second approach he gets only one point, toward his peer acceptance score. Also, since only same sex choices were made, and class size and the ratio of boys to girls varied, scores from class to class and from boys to girls were made more comparable by dividing the number of nominations by the number of boys (or girls) in class less one. Formulated as a series of equations we have the following: $PA = {}^{PC_T}/N-1$, $PA = {}^{PC_D}/N-1$, $PR = {}^{NC_T}/N-1$, and $PR = {}^{NC_D}/N-1$; where PA is peer acceptance, PR is peer rejection, PC_T and NC_T are the total number of positive, and negative, choices received, respectively, PC_D and NC_D are the number of positive, and negative, choices received, respectively, from different children, and N is the number of boys (or girls) in the classroom group.

These data were gathered near the beginning and end of fourth and fifth grades (actually about five weeks after school started and before school ended), and the same procedures were used each time. In addition, preliminary data gathered in the Fall, 1964 were utilized in deciding whether separate peer acceptance and peer rejection scores were justified, and whether there was a high degree of similarity between scores based on total number of choices received and scores based on the number of choices received from different peers. The results are given in Table 9.

Table 9.

Fall, 1964 Correlations in Different Subgroups Between Different Sociometric Scores

Subgroups	N	r_{12}	r_{34}	r_{13}	r_{24}
Male	65	92	85	-08	-08
Female	62	89	94	-37	-29
White	50	93	94	-31	-24
Negro	37	92	93	-18	-08
Mex.-Amer.	40	84	86	-36	-24
TOTAL	127	90	90	-25	-20

Note: 1=Total Number of Positive Choices Received/$_{N-1}$;
2=Total Number of Different Positive Choices Received/$_{N-1}$;
3=Total Number of Negative Choices Received/$_{N-1}$;
4=Total Number of Different Negative Choices Received/$_{N-1}$.
Also, decimal points have been omitted.

From the foregoing data (in Table 9) the answers to the two questions which were raised earlier are obvious. In the first place the total number of positive and negative nominations received is so highly correlated with the total number of different positive and negative choices received, respectively, that there is no point in keeping both scores, and in subsequent analyses it was decided that sociometric scores based on the number of nominations received from different children should be used. With regard to the question concerning the separation of positive and negative choices, it is quite clear that, although they tend to be negatively related, the correlations are so low as to necessitate keeping both types of scores. With respect to peer status, therefore, there are two variables to be studied further: one is peer acceptance and the other is peer rejection.

Standardized Tests

The California Test of Mental Maturity and the Metropolitan Achievement Test were administered to children on all four occasions, and they provided the major source of information on intellectual and academic functioning. As noted elsewhere, the MAT was given by teachers, with test materials, minimal supervision, and scoring performed by the project staff; and the CTMM was given by the project staff with assistance in the Fall, 1964 from psychometric teams of the Austin public schools. The CTMM was also scored through project facilities. The Elementary level of the MAT was used in the Fall, 1964. (In one school a few students received the Primary II, the scores being converted with data provided by the test publisher.) In the Spring, 1965, the Intermediate level of the MAT, with machine scorable answer sheets, was used in four project schools, and the Elementary level test was continued in the four schools with high concentrations of Negro and Mexican-American children. However, in fifth grade all schools used the Intermediate level of the MAT; and in using the MAT, forms were alternated from one occasion to the next so that the same form was not repeated on successive occasions. In one instance the Iowa Test of Basic Skills was used in a school, and it was necessary to eliminate those scores from analyses. The arithmetic, reading, and language subtests were utilized, rather than the whole battery, and all MAT raw scores were converted into grade equivalents. For the CTMM, separate verbal (language) and nonverbal (nonlanguage) IQ's, as well as a total IQ, were obtained with the Short Form, 1963 Edition of the test; and the same form was used throughout, being, therefore, repeated four times during the two years. Repeating the same form of the CTMM served an important purpose, which was to determine the relationship between school anxiety and learning as represented in improvement in performance on the CTMM. In the first chapter it was pointed out that, although anxiety has been consistently found to be negatively related to intelligence test performance, the role of anxiety in change in performance on intelligence tests has been only obliquely approached (see, e.g., Haggard, 1954 study of test-taking attitudes and administrator rapport).

Teacher Grades

The grades reported by teachers in both subject matter and school conduct were utilized, even though there is considerable evidence from a wide variety of sources that grades do not have the reliability and validity that researchers desire in their instruments. In addition, teacher grades are to some extent a measure of the teacher's value system, and it is difficult to ascertain the degree to which grades of different teachers are comparable. Nevertheless, grades have been shown to be as good a predictor, when grades of a number of different teachers are "averaged," as anything else of future school success. Also, the problem is mitigated by another circumstance, which is that the project is interested in grades both as measures of achievement and behavior in school, and as indicators of reward and failure influences. In this latter case, there is little reason to believe that an "invalid" grade of "F" is less threatening to the student than a "valid" grade of "F." Similarly, an "A" would probably have about the same rewarding effect whether or not it was "validly" given.

Another matter which enters the picture in regard to interpreting teacher grades is the "grading on the basis of ability" philosophy which appears to be official policy in the Austin Public Schools, at least through third grade, and frequently in Grades 4-6. According to the rationale of this method of grading, intellectual ability is "partialled out" of the grades given by teachers; and since achievement tests like the MAT are highly correlated with intelligence tests this factor also is largely "partialled out." The net effect of this is that teacher grades would not be highly correlated with intelligence tests or with standardized achievement tests. Based on data gathered in the Fall, 1964, the actual relationships are as shown in Table 10, where teacher grades obtained in Grades 1-3 are correlated with intelligence and achievement tests given in Grade 2 and the beginning of Grade 4.

Table 10.

Correlations between Teacher Grades and Intelligence and Achievement Test Scores in Various Subgroups

Subgroup	N	$r_{IQ, GPA}$[1]	$r_{Ach, GPA}$[1]
Male	65	54	65
Female	62	70	62
White	50	55	61
Mex.-Amer.	40	44	56
Negro	37	52	57
TOTAL	127	62	61

Note: Decimal points have been omitted.

[1] These coefficients are averages of several correlation coefficients.

The evidence of Table 10 is clear: intellectual ability and achievement on standardized tests are highly related to teacher grades. It would appear, therefore, that teacher grades should not be viewed within the framework of the grading-on-the-basis-of-ability philosophy. On further analysis, however, these results would be consistent with grading on the basis of ability if one is willing to assume that the effectiveness of schools and teachers in reaching children is proportional to the children's intelligence, i.e., the more intelligent the child the more effective schools and teachers are in teaching the child. No further effort will be made at this point to untangle and explore this possibility.

In addition, information on the previous school history of all children in the project was sought in the cumulative records in the schools. From this record a number of different kinds of information was obtained, including teacher grades in preceding school years (Grades 1-3), school attendance, intelligence and achievement test data,

Teacher Nomination Forms

The use of teacher nominations of children for various traits was a major source of data in the project, and as pointed out earlier in the discussion of teacher grades, such nominations are probably a measure of the teacher's value system regarding the classroom behavior of children, as well as being a measure of children's actual behavior in the classroom. It also is difficult to ascertain whether different teacher's nominations are comparable. But this is not just the problem of knowing whether children in different classrooms would receive comparable nominations if they had the opportunity to interact with two or more of the teachers. There is also the possibility that different classroom situations bring out different behaviors in different children. In spite of these limitations, teacher's observations and judgments of the classroom behavior of children frequently have been significantly related to anxiety (Ruebush, 1963).

One of the instruments developed by the project staff was designed to measure the desire and effort to do well in school academically and socially, and it is called a measure of school motivation. The items designed to measure the desire and effort to do well in school academically were suggested by a study by Sarason et al., (1958) and those intended to measure desire and effort to do well in school socially were developed by the project staff in a form parallel to those involving academic activities. The content of the instrument is included in Appendix A.

The procedures by which children were assigned to one of five categories is clearly shown in Appendix A, but it should be noted here that the instrument was designed to produce very little discrimination between classes. In other words the steps which were taken produces a distribution of school motivation scores in each class which does not differ appreciably from the distributions of scores in other classes. In devising the instrument an attempt was made to minimize the tendencies of some teachers to strongly skew their distributions, and at the same time to allow room for legitimate differences between classes. (For a clearer picture of what has been done it is suggested that the reader refer to the instrument in Appendix A.)

Teacher nominations also were secured for a wide variety of different types of classroom behavior. One of the major sources of these classroom "trait" characteristics is the series of studies of problem behavior in school initiated by Wickman (Wickman, 1928; Stouffer, 1955). Forty of these trait characteristics were utilized, and they are included in Teacher nomination Forms 1 and 2 in Appendix A. A number of other trait characteristics are included in these two forms which were gleaned from a number of sources, especially the clinical literature . In addition, there are a series of sketches which provide detailed descriptions of the classroom behavior of children which were derived from psychoanalytically-oriented views of the learning and school behavior difficulties of children (Blanchard, 1946; Klein, 1949; Pearson, 1952). This teacher nomination form also is included in Appendix A.

These teacher nomination data were handled on two levels in relation to a definition of what was being measured by this multitude of characteristics. Since teachers were asked to nominate the one or two children whom they associated with each of the characteristics.or school behavior traits described, and were asked to work rapidly and freely, only children evidencing a marked degree of a characteristic or trait received nominations (if it can be assumed that success was obtained in getting the information desired from teachers). For this reason, in the empirical determination of which traits went together or formed constellations, nominations received by children on all four occasions were added together. This had the effect of involving more children, and of making the image and factor analyses which were performed more intellectually palatable and defensible. A G covariance matrix was first computed, and this was followed by a principal-components and a varimax rotation analysis. These analyses, however, were limited to the items (i.e., the traits or characteristics) included in teacher nominations Forms 1 and 2, a total of 72 items. All but 10 of the 72 items had loadings of .40 or higher and were assigned to the factor which they best represented. Five factors were obtained, and these factors are identified, and their accompanying items are listed, in Table 11. It should be noted, of course, that the sample on which this image analysis was carried out consisted of subjects who were present on all four occasions and thus had the opportunity of being nominated by the teacher on each occasion. Also, scores were derived for each of these factorially based concepts (or dimensions) by simply adding the number of nominations received on each set of items, and these scores and the concepts which they represent were used throughout the project analyses.

As previously noted, information obtained with the sketches was not incorporated in the preceding analyses. Instead, the sketches were originally developed to measure three concepts, and these concepts and the items designed to measure them were as follows: feelings of inferiority (items 2, 4, 6, 9, 11, 12, 13, 21); neurotic symptoms associated primarily with academic situations (items 1, 3, 8, 10, 15, 16, 19), and neurotic symptoms associated primarily with social situations (items 5, 7, 14, 17, 18, 20, 22, 23). Scores for these items were arrived at by weighting the three item description levels three, two, and one, respectively, and summing across items.

Table 11.

Items Representing the Five Factors Obtained in
an Image Analysis of Teacher Nomination Forms 1 and 2 using
Data from all Four Occasions

Item No.	Item	Item No.	Item
Factor A: Aggression, with independence strivings (AI)			
3	Cruelty, Bullying	44	Fights with little provocation
6	Disobedience	47	Provokes hostility from peers and teachers
8	Domineering		
11	Impertinence, Defiance	56	Engages in noisy behavior
12	Impudence, Rudeness	57	Engages in frequent vocal defiance
21	Quarrelsomeness		
22	Resentfulness	62	Stubbornly resists the will and authority of the teacher
28	Stubbornness		
30	Sullenness	68	Constantly challenges and opposes the leadership of the teacher
34	Temper tantrums		

Table 11 cont.

Item No.	Item	Item No.	Item
Factor B: Active withdrawal (AW)			
1	Carelessness in work	49	Acts as if the teacher does not exist, is sometimes oblivious to what happens in class
4	Daydreaming		
13	Inattention		
16	Lack of interest in work	51	Has frequent stomach upsets, headaches, and other physical disorders
17	Laziness		
27	Stealing		
32	Tardiness	53	Lies at slightest opportunity
38	Unreliableness	55	Dreads going to school
40	Untruthfulness	58	Makes excuses for failures, and justifies his behavior
43	Uses real or imagined inferiorities as an excuse for not really trying	63	Is accident prone
		72	Uses laziness as a means of attracting attention
Factor C: Emotional disturbance, with depression (ED)			
9	Easily discouraged		
10	Fearfulness		
20	Physical coward		
25	Sensitiveness		
26	Shyness		
37	Unhappy, depressed		
39	Unsocial, withdrawing		
64	Is overly seriously minded, unresponsive to fun provoking situations		
70	Is sad and apathetic		
71	Lacks spontaneity, answers questions in dull voiced monosyllables		
Factor D: Self enhancement, through derogation of others (SE)			
15	Inquisitiveness		
19	Overcritical of others		
33	Tattling		
41	Clings to teacher and seeks to be near her and hold her hand		
45	Exhibits righteousness, snobbishness		
59	Seeks to attract attention, through success		
67	Shows jealousy, hatred		

Table 11 cont.

Item No.	Item	Item No.	Item
Factor E:	**Diffuse hyperactivity** (DH)		
7	Disorderliness in class		
14	Interrupting		
18	Nervousness		
23	Restlessness		
42	Habitually pulls his hair, picks at his nose, pulls his hair, bites his nails		
52	Is a compulsive talker		
54	Exhibits facial and body mannerisms, constant gulping and hissing		
65	Attracts attention by being a nuisance		
66	Exhibits constant movement of fingers or hands, persistent perspiring of parts of the body		

Other Instruments Used

The Pupil Perceptions Test[1], a research instrument developed by Gotts (1965), which is essentially an application of Parsons' notions of instrumentality and expressiveness (see Johnson, 1963), and which contains 40 items which describe concrete instances of instrumental and expressive transactions between a child and an adult (see Appendix A), had a limited use in the project. The transactions described in this instrument are in the form of brief statements, some referring to "the child" and "the teacher," and others referring to "the child" and "the parent." For each item the child is asked to specify the sex of the adult and the child mentioned.

The rationale of the instrument is that children may be presented with a series of statements which permit them to demonstrate their sensitivity to existing sex-typed role norms in the culture. Since instrumental and expressive interactions are thought to be a primary source of the development of sex-typing (Johnson, 1963), children's perceptions of these interactions should reflect the extent to which they have been socialized to expect sex-typed behaviors.

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[1] This section is based on a paper presented at SWPA in April, 1966 by Gotts (see Gotts and Phillips, 1966).

The PPT was administered only in the Fall, 1965 to five fifth grade classes in socio-culturally different schools. A discriminant analysis was used to combine the PPT items on which the boys' means differed significantly from the girls' means so as to yield a maximum separation of the sexes. (Cooley and Lohnes, 1962; Veldman, 1965). Masculinity-femininity scores were derived from this discrimination function for this limited sample and were related to school anxiety and other variables in the project.

The Children's Social Desirability Scale (Crandall, Crandall, and Katkovsky, 1965) was administered to a representative sample of five classes in the Spring, 1966. The scale has been developed and tried out with children in different racial and ethnic groups, and in the yes-no format has 47 items (see Appendix A). The purpose of giving this instrument was to provide additional data in the area of response styles.

Chapter 3

Major Findings of the Project

The procedures which will be followed in this chapter are, first, to identify at a conceptual, analytical, or hypothetical level a problem for which data collected in the project may have some relevance. Generally, what is involved at this point is a recapitulation of ideas presented in Chapter 1, followed by a development of details of the problem and the questions and hypotheses to be explored. Then there is a discussion of the statistical analyses to be utilized with an elaboration of any difficulties and qualifications which might need explaining. Finally, the actual results will be presented, described and interpreted - leaving, for the most part, more global considerations of the import of the results to the last chapter.

Reliability of the Tests

In longitudinal studies, and studies of change, one is faced with a special problem which Bereiter (1963) recently referred to as the "unreliability - invalidity dilemma." As he points out, it is well known that, other things being equal, as the correlation between scores obtained on two different occasions increases, the reliability of the difference score decreases. While at the same time, as the correlation between tests decreases, it becomes increasingly difficult to maintain that the tests are measuring the same thing. So, when one obtains a low correlation between pretest and posttest, he is faced with the problem of deciding whether conditions have changed so much for the posttest that the test is no longer measuring the same thing, or whether the experiences which have intervened between tests have not uniformly affected the scores of all subjects.

In dealing with the problem of reliability of the major variables, we have approached it in two ways. Our first concern was with the degree of homogeneity of the tests used, and for this criterion we relied in many instances on factorial techniques. By developing measures which included items similar in factorial content, it was hoped that a satisfactory degree of homogeneity would be achieved. Here we obviously were concerned with internal consistency since we wanted all parts of a test to measure the same thing.

At the same time, we were concerned with the stability of the tests identified as our major variables. That is, we were concerned about the change, or lack of change, in the rank orders of children over time; in particular, we were interested in these rank orders between Fall, 1964 (T_1) and Spring, 1965 (T_2), between Spring, 1965 (T_2) and Fall, 1965 (T_3), and between Fall, 1965 (T_3) and Spring, 1966 (T_4). In other words, we were concerned about stability across fourth grade, across the summer months, and across fifth grade. With a high test-retest correlation we would be assured that children changed very little in status within the sample studied on the variable measured. We could also argue that the test measured essentially the same thing on the two occasions. On the other hand, a low test-retest correlation might mean that children had changed in different directions on the test during the interval of time because they were differentially influenced by the intervening experiences. Or it may mean that what the test measured changed from one occasion to the next. To interpret what is happening in the situation where the test-retest correlation is low, one can make use of information about the means and standard deviations of the test on the two occasions. In addition, correlations with other tests given on the two occasions can be examined and compared, and factor analytic techniques can be applied. All of these approaches were utilized, at least to a limited degree, in analyzing the problem of reliability of the major tests. In Chapter 2 the details and results of factor analytic studies of many of our variables (in several instances, on both Fall, 1964 and Fall, 1965 data) were described, and these findings will not be repeated here. It is sufficient to say that items for 13 of our major variables were the result of factor analyses, 5 being based on factor analyses repeated on the two occasions.

Internal consistency of the tests. There are several approaches to the computation of internal consistency reliability, and for this project the K-R formula 21 was applied to the data for each test, with the exception of the MAT and the CTMM, the only two commercially-produced, widely used and standardized tests utilized in the project. The reputation of these tests, their speed character, and the way scores were combined in our analyses, led to the decision not to compute internal consistency values. In addition, the nature of the school motivation and sociometric tests precluded the application of KR21 techniques, although in this instance a specific indication of internal consistency might have been helpful. (However, test-retest reliabilities, with administrations separated by one week, were computed for school motivation in the Fall, 1964 and Spring, 1965, and values of .88 and .92 were obtained, indicating that the short term reliability of this instrument is satisfactory.)

While the results of the KR21 computations shown in Table 12 are not what they might be, in view of two circumstances to be mentioned they are considered to be generally adequate. One of these factors is the length of some of the tests, since the KR21 formula increases in size as the number of items increases (other factors being equal). The other is the point observed by Guilford (1956) which is that KR21 estimates are generally conservative. In addition, one further point should be made in relation to Table 12. Although there are several exceptions, there is a tendency for T_1 reliabilities to be lower, which suggests that the homogeneity of the items varied somewhat from the first occasion to the other three occasions.

Stability of the tests. As previously noted, coefficients of stability across the three time periods were desired; and for this purpose, simple Pearson product-moment correlations were computed between Fall, 1964 and Spring 1965; Spring, 1965 and Fall, 1965; and Fall, 1965 and Spring, 1966. These results are shown as r_{12}, r_{23}, and r_{34}, respectively, in Table 13 for the total sample.

Since a high test-retest coefficient indicates that children pretty much kept their same status within the sample, it would be accurate to note that, with respect to the MAT and the CTMM, the children didn't change much in their status. At the other extreme, several variables, including principally SD, FI, and NS, had very low test-retest reliabilities. And, if one adds the other tests which depend on the teacher's observations and judgments of children, i.e., NA, AI, AW, ED, SE, and DH, it is apparent that tests which depended on the teacher for information had lower test-retest reliabilities than other tests. In addition, there is a tendency for r_{23} to be far lower than r_{12} and r_{34}. Therefore, not only is it evident that children

Table 12.
KR21 Reliabilities for the Variables
At T_1, T_2, T_3, and T_4

Variable	Items	T_1	T_2	T_3	T_4
School Anxiety (SA)	74	96	95	96	96
Sex-linked Interests, Attitudes (S)	11	77	90	82	88
Self Disparagement in Relation to Peers (SD)	10	47	84	78	96
Avoidance Style of Defensiveness (D_{AV})	18	54	63	67	75
Approach Style of Defensiveness (D_{AP})	17	70	83	86	75
Feelings of Inferiority (FI)	8	64	82	81	55
Neurotic Symptoms, Academic (NA)	8	65	80	79	78
Neurotic Symptoms, Social (NS)	7	67	NA	89	90
Aggression with Independence Strivings (AI)	16	86	85	84	84
Self Enhancement through Derogation of Others (SE)	7	40	50	47	31
Diffuse Hyperactivity (DH)	9	64	NA	58	56
Proneness toward Neuroticism (PTN)	25	51	NA	64	50
Active Withdrawal (AW)	17	65	64	74	74
Emotional Disturbance with Depression (ED)	10	61	66	60	60

Note: Decimal points have been omitted.

Table 13.

Stability of Variables across Occasions
For the Total Sample

Variable	r_{12}	r_{23}	r_{34}
School Anxiety (SA)	63	74	68
School Motivation (SM)	66	55	54
Sex-linked Interests, Attitudes (S)	65	63	60
Self Disparagement in Relation to Peers (SD)	23	22	16
Feelings of Inferiority (FI)	28	10	47
Neurotic Symptoms, Academic (NA)	40	25	42
Neurotic Symptoms, Social (NS)	30	10	NA
Aggression with Independence Strivings (AI)	47	25	49
Active Withdrawal (AW)	34	26	44
Emotional Disturbance with Depression (ED)	45	43	44
Self Enhancement through Derogation of Others (SE)	38	30	47
Diffuse Hyperactivity (DH)	41	36	NA
Peer Acceptance (PA)	47	49	59
Peer Rejection (PR)	49	52	56
MAT Achievement (NV)	82	74	80
MAT Achievement (V)	88	71	87
CTMM IQ (NV)	81	82	80
CTMM IQ (V)	85	86	88
Proneness toward Neurotism (PTN)	39	55	56
Grade Point Average (GPA)	83	69	82
Approach Style of Defensiveness (D_{AP})	46	44	41
Avoidance Style of Defensiveness (D_{AV})	28	43	54

Note: Decimal points have been omitted.

changed status on these variables during the school year, but they made an even greater change in status within the sample across the summer months. Generally, therefore, on these tests the children either changed in different directions, or they changed in the same direction at different rates; or these tests did not measure the same functions before and after these intervals of time. Of course, one could assume that these variables are intimately linked to in-school conditions, and that the teacher and classroom group are the prime determiners of school experiences and behavior. Thus, when children change from one teacher and classroom group to another, there is a change in their classroom experience and behavior. But one would have to assume, also, that this change did not affect all children uniformly. We are, therefore, forced to an interaction point of view which holds that changes in school conditions interact with children's previous school experience and their personal characteristics. This, in itself, is not farfetched, since it is increasingly being demonstrated that classroom behavior is the result of complex interactions (see, e.g., Phillips, 1964).

However, a more parsimonious view of these results at this time is that they are the consequence of differences in teachers' sensitivity to and accurate observation of children's behavior; and, it might be added, their willingness to cooperate to the fullest extent.

Relationship Between Test Anxiety and School Anxiety

Conceptually, in Chapter 1, and empirically, in Chapter 2, test anxiety was viewed as a major component of school anxiety, since test and test-like situations should be one of the most important sources of school anxiety, and 26 of the 30 items of the TASC appear in the school anxiety factor. One further step was taken, however, in establishing the closeness of this relationship; and this was the correlation of test anxiety (just based on 26 items) with school anxiety.

The results are shown in Table 14, and the most important finding revealed in the table is that test anxiety and school anxiety are correlated .82, which is not surprising in view of what has already been pointed out, and the spurious element

Table 14.

Correlates of School Anxiety and Test Anxiety In the Total Sample, Fall, 1964 (N=434)

Variable	r_{SA}	r_{TA}
School Motivation (SM)	-10*	-07
School Anxiety (SA)	1.00	82*
Sex-linked Interests, Attitudes (S)	-20*	-17*
Self Disparagement in Relation to Peers (SD)	18*	11*
Feelings of Inferiority (FI)	06	04
Neurotic Symptoms, Academic (NA)	09	04
Neurotic Symptoms, Social (NS)	03	-06
Aggression with Independence Strivings (AI)	-03	-06
Active Withdrawal (AW)	03	-03
Emotional Disturbance with Depression (ED)	08	03
Self Enhancement through Derogation of Others (SE)	07	03
Diffuse Hyperactivity (DH)	-06	-11
Peer Acceptance (PA)	02	07
Peer Rejection (PR)	18*	08
MAT Non-verbal Achievement	-42*	-39*
MAT Verbal Achievement	-36*	-38*
CTMM Non-verbal IQ	-29*	-27*
CTMM Verbal IQ	-33*	-33*
Proneness toward Neuroticism (PTN)	56*	45*
Grade Point Average (GPA)	-33*	-30*

Note: Decimal points have been omitted.
***Probability of r being zero less than .05, based on Fisher's transformation.**

in part-whole correlations which inflates their value. Using a formula given by Guilford (1956) for the correlation of a part (test anxiety) with a remainder (school anxiety - test anxiety), a correlation coefficient of .61 was obtained. This indicates that test anxiety is substantially correlated with the remaining elements of school anxiety, i.e., school anxiety associated with situations other than test and test-like situations. In looking further at Table 14 it is apparent that the overlap suggested by these correlation coefficients is supported by the similarity of the correlations obtained with the other variables.

In a further exploration of the nature of school anxiety, an image analysis was carried out on the Spring, 1966 school anxiety items, using the same procedures discussed earlier in Chapter 2. And, since the grouping of these items was based on an earlier series of image analyses, it is not surprising that the first component in the principal axis analysis had 82 per cent of the common variance extracted associated with it; and only 7 of the 74 items had loadings on this factor of less than .40. When the form factors with eigenvalues of 1.00 or higher were rotated, four factors were obtained accounting for about equal percentages of the variance. The school anxiety items are listed in Table 15, and the test anxiety items are marked with an asterisk. Also, factor loadings greater than .30 are listed at the end of each item for each of the four factors. In general, the results show that test anxiety items most frequently appear in Factor 2, although they also appear in the other three factors. There is also a tendency for Factor 1 items to come from Form 3, but this appears to be due primarily to a concentration of items with a social orientation in this form. No further analyses using scores derived for these components of school anxiety were attempted in this project, but two observations should be made: first, the factors obtained here appear to be similar to those obtained by Dunn (1964, 1965) in a series of factor analyses of the TASC; and second, it appears that these factors are more completely and adequately represented by items of the school anxiety scale than by the items of the TASC alone.

And finally, it should be noted that an item analysis on Fall, 1964 responses to all the items in the CSQ, and the proportions responding in one way among

Table 15.

Factor loadings obtained for School Anxiety Items
For the Total Sample in the Spring, 1966

Form and Item No.	Item and factor loadings
1-5*	Do you worry when the teacher says that she is going to ask you questions to find out how much you know? 2-50
1-8*	Do you sometimes dream at night that you did poorly on a test you had in school that day? 2-49
1-10*	Do you worry a lot while you are taking a test? 2-55
1-12	Is it hard for you to do as well as the teacher expects you to do in class? 3-39
1-16*	Do you sometimes dream at night that the teacher is angry because you do not know your lessons? 4-38
1-20	Do you often have the fear that other children might think you dumb? 1-31; 3-36
1-27	Do you usually feel nervous when speaking to the principal?
1-30	Are you sometimes afraid of expressing yourself in class because you think you might make a foolish mistake? 2-31; 3-49; 4-30
1-38	Are you often worried that the teacher will scold or punish you? 2-37; 3-31
1-40	When it is your turn to get up and recite in class, do you feel your heart pounding hard? 3-34
1-42*	When you are at home and you are thinking about your arithmetic lesson for the next day, do you become afraid that you will get the answers wrong when the teacher calls upon you? 2-39; 3-42; 4-33
1-56*	Do you worry about being promoted, that is, passing from the ---- grade to the ---- grade at the end of the year? 2-51
1-62*	Do you worry a lot before you take a test? 2-54
1-63*	Do you think you worry more about school than other children? 2-38; 3-35

Table 15.
(Continued)

Form and Item No.	Item and factor loadings
1-65*	After you have taken a test do you worry about how well you did on the test? 2-56
1-66*	If you did very poorly when the teacher called on you, would you feel like crying even though you would not try not to cry? 2-33; 4-32
11-3	Do you ever worry about knowing your lessons? 2-50
11-5*	When the teacher asks you to get up in front of the class and read aloud, are you afraid that you are going to make some bad mistake? 2-39; 3-32; 4-34
11-6	Do your knees shake when you are asked to recite in class? 4-55
11-11	Do you sometimes have a fear of fainting in class? 4-39
11-12*	When you are home and you are thinking about your reading lesson for the next day, do you worry that you will do poorly on the lesson? 2-44; 4-38
11-14	Do you sometimes shake all over when you are asked to recite in class? 4-61
11-16	When the teacher fails to notice and comment on your work does it make you unhappy? 1-35
11-17*	When you are in bed at night, do you sometimes worry about how you are going to do in class the next day? 2-39; 4-45
11-20	Does your teacher sometimes give you a lower grade than you think you deserve?
11-26	Do you always feel uncomfortable when you do not know what is expected of you in class? 1-30; 2-41; 4-39
11-28*	Do you sometimes dream at night that you are in school and cannot answer the teacher's questions? 4-53
11-33	Does your voice sometimes shake when you are asked to recite in class? 2-35; 4-46
11-35	Is it hard for you to tell someone you're scared? 1-31
11-38	Do you have a hard time keeping up with the other students in class? 3-53

Table 15.
(Continued)

Form and Item No.	Item and factor loadings
11-45	If anything happens which tends to make you look foolish, do you tend to think about it for a long time afterwards? 1-31
11-46	Do you worry that you might forget your lines when you recite a poem in front of the class? 1-33; 2-49
11-47	Do some of your friends think you are a sissy because you make good grades?
11-50	Do you dread choosing up sides to play games because you are usually one of the last ones chosen? 3-34
11-52	Do you ever worry about something bad happening to someone you know? 2-43
11-53*	When you are taking a hard test, do you forget some things you knew very well before you started taking the test? 2-42; 3-33
11-54*	Do you wish a lot of times that you didn't worry so much about a test? 2-54
11-56*	When you are taking a test, does the hand you write with shake a little? 2-36; 4-40
11-58	Have you ever been afraid of getting hurt? 1-31
11-63	Do the students that do poorly on the tests that the teacher gives lose the approval of the teacher?
111-2	If you think someone doesn't like you, does it bother you? 1-34
111-6	When someone is slow, does it bother you; or does it not bother you?
111-11	When you've done something wrong, is it hard for you to say you're sorry? 1-43
111-13	Do you sometimes worry about being different from many of the children in your class? 1-49; 4-33
111-14	Do you usually feel awkward meeting new students who have just come into the class? 1-36; 4-34
111-16*	When the teacher says that she is going to find out how much you have learned, does your heart begin to beat faster? 1-39; 4-48

Table 15.
(Continued)

Form and Item No.	Item and factor loadings
111-17	Are you sometimes afraid of getting into arguments? 1-45
111-19	Do some children in the class say things to hurt your feelings? 1-44
111-22	Does it seem like most of the children in the class never pay any attention to you? 1-40; 3-37
111-23*	When the teacher says that she is going to give the class a test, do you get a nervous or funny feeling? 1-45; 2-37; 4-39
111-25	Do you dislike reciting in class because you might make a mistake and others would laugh at you? 1-44; 3-39
111-26	Do you every worry about what is going to happen? 1-39; 2-41
111-29	When one of your friends won't play with you, do you feel badly? 1-45; 4-35
111-32	Is it hard for you to have a good report card as your parents expect you to have? 3-39
111-33	Do some children in the class seem to get angry when you do better than they do? 1-35
111-34	Are you afraid that other children will laugh at you when you show your work to them? 1-45; 4-39
111-35	Are you frequently afraid you may make a fool of yourself? 1-57
111-36*	Are you afraid of school tests? 1-31; 2-33; 4-36
111-39*	When the teacher says that she is going to give the class a test, do you become afraid that you will do poorly? 1-44; 2-50
111-40	Do you worry a lot about your school work because you are afraid your parents might find out you are not doing as well as they expect you to do? 1-44; 2-40; 3-31
111-41	Do you ever worry about what people think of you? 1-51
111-42	Do you feel nervous if the whole class watches you when you are making something? 1-52; 4-31

Table 15.
(Continued)

Form and Item No.	Item and factor loadings
111-43*	Do you sometimes dream at night that other boys and girls in your class can do things that you cannot do? 1-41
111-44	Do your classmates sometimes make fun of the way you look and talk? 1-57
111-47	Do you feel nervous when others look at work you have done? 1-51; 4-32
111-49*	When the teacher is teaching you about reading, do you feel that other children in the class understand her better than you? 1-39; 3-35
111-50*	While you are on your way to school, do you sometimes worry that the teacher may give the class a test? 1-45; 2-31
111-52	Do you ever worry that you won't be able to do something that you want to do? 1-47; 2-31
111-53	Are you often worried that you might be sick in class? 1-47; 2-36
111-55*	While you are taking a test do you usually think you are doing poorly? 1-34; 2-47
111-58*	When the teacher asks you to write on the blackboard in front of the class, does the hand you write with sometimes shake a little? 1-44
111-61	Do you feel cross and grouchy sometimes?
111-62	In your school work, do you often forget; or do you feel sure you can remember things? 3-40
111-65	When you recite in class do you often wonder what others are thinking of you? 1-51

*These are items from the TASC

Note: Only factor loadings of .30 or higher are listed after the items, and the first number refers to the factor.

MC Anglo, ULC Anglo, Negro, and Mexican children were compared. Using the item clusters determined from the image analysis, it was found that differences between these groups were highly consistent from item to item within the clusters. For example, on most of the school anxiety items the groups were arranged in the same order. But what is equally significant, these same group differences did not appear in the other scales; and when differences occured between these groups, they usually were in the opposite direction. Therefore, it would be difficult to account for the large differences in school anxiety between these groups in terms of acquiescence.

Correlates of Masculinity-Feminity[1]

A general implication of developmental studies of sex-typed socialization practices is that the failure to establish appropriate sex role behaviors is more significant for boys than girls. For example, Kagan and Moss (1962) report that the failure to adopt masculine behavior between the ages of 3 and 10 is more predictive of high sex anxiety for adult males than females. And in a study by Sulton-Smith and Rosenberg (1965) it was found that anxiety is greater at age 10 among children with inappropriate sex-role characteristics. It seemed reasonable, therefore, to expect that masculinity-femininity scores for girls will be unrelated to school anxiety, while masculinity-femininity scores for boys will be significantly associated with school anxiety, with the more school anxious boys being less masculine.

The correlates of M-F for fifth grade boys and girls are presented in Table 16, and in interpreting this table it should be remembered that a high M-F score for boys means low masculinity, and a high M-F score for girls means high femininity. Therefore, it is apparent that high school anxiety is positively associated with low masculinity in boys, and is unrelated to feminity in girls. Thus, it would appear that M-F phenomena are important in the study of anxiety.

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[1] This section is conceptually based on a paper by Ed Gotts prepared with the assistance of the author.

Table 16.

Correlates of M-F for Boys and Girls
In the Fall, 1965

Variable	Boys (N=48)	Girls (N=53)
School Motivation	19	01
School Anxiety	32*	-10
Sex-linked attitudes, interests	-07	-09
Self Disparagement, in relation to peers	-02	-02
Feelings of Inferiority	-13	14
Neurotic Symptoms, academic	01	09
Neurotic Symptoms, social	-16	-02
Aggression, with independence strivings	-16	-21
Active withdrawal	-05	-07
Emotional disturbance with depression	-17	01
Self enhancement, through derogation of others	10	09
Diffuse hyperactivity	06	13
Peer acceptance	-05	-09
Peer rejection	-13	-08
MAT Verbal	13	04
MAT Non-verbal	15	10
CTMM Non-verbal IQ	00	07
CTMM Verbal IQ	03	-06
Proneness toward Neuroticism	02	01
Grade Point Average	11	-13

Note: Decimal points have been omitted.
*Probability of r being zero less than .05.

Over and Under Achievement[1]

In many of the studies which have associated anxiety with school achievement, and in which results generally have been interpreted as indicating that anxiety interferes with school achievement, there have not been adequate controls for the possible confounding effects of intelligence. This is an important point, since intelligence is negatively related to anxiety in most cases; and the generally obtained negative relationship between anxiety and school achievement may be partially or entirely due to the effects of intelligence. For this reason, the relation between school anxiety and school achievement (as measured by teacher grades) was determined with the effects of intelligence taken into account.

Methodologically, studies of over and under achievement have typically used the research design of contrasting groups, i.e., extreme groups of under and over achievers are selected. As Thorndike (1963) points out, this often means that only a limited and highly restricted sample of the population is studied, and only a restricted range of under and over achievement is investigated. Therefore, the method which he proposes, i.e., part correlation, was utilized with data collected in the Fall, 1965; and the results obtained are presented in Table 17. It should be pointed out, also, that the variables utilized in the analysis were preliminary "editions" of some of the variables actually used throughout the rest of this report, and the results, therefore, may not be strictly comparable to the results which would be obtained with the revised editions of these variables (based on the later image analyses, etc.). Generally, what is listed as "school anxiety" is quite similar to the revised version; what is listed as "neurotic symptoms in behavior" consists mostly of items from "feelings of inferiority," "neurotic symptoms, academic," and "neurotic symptoms, social;" what is listed as "seriousness of maladaptive behavior" is a measure derived from the 40 items of the teacher nomination Forms 1 and 2, which originally appeared in the studies by Wickman and others (see Chapter 2). What is listed as "reinterpretation" consists of items found mainly in "diffuse hyperactivity." What is listed as "withdrawal" consists mostly of items found in "active withdrawal" and "emotional disturbance with depression;" what is listed as "aggressiveness" consists mostly of items found in "aggression with independence strivings;" and the remainder of the variables are identical with those by the same name in the rest of the project.

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[1] This section is based on a paper by Russell Adams prepared with the assistance of the author.

The results of Table 17 indicate that school anxiety makes a significant contribution to under achievement (even when the effects of intelligence are controlled), although this contribution is limited to ULC Anglo children. School motivation makes a large contribution to over achievement, but here the problem of criterion contamination must be considered, because the teacher is responsible for both school motivation ratings and grades. Seriousness of maladaptive behavior and withdrawal also contribute substantially to under achievement in all three subsamples. (Of course, criterion contamination may exist here, too.) On the other hand, reinterpretation contributes significantly to under achievement only in the Non-Anglo subsample; aggressiveness contributes to under achievement only in the ULC Anglo and the Non-Anglo subsamples; and neurotic symptoms in behavior contributes to under achievement only in the ULC Anglo and the Non-Anglo subsamples. (Again, criterion contamination may be a factor.) Finally, peer acceptance contributes to over achievement, and peer rejection contributes to under achievement in the MC and ULC Anglo subsamples, indicating that peer status may have a different, less school-oriented basis among Non-Anglo children.

School Anxiety and Proneness toward Neuroticism As Functions of Prior School Experience

When the project was initiated, the children were in fourth grade, so they had already had three years of school experience; and it is possible that early school experience is crucial to the development of school anxiety. In fact, if one accepts a strongly psychoanalytic orientation, there would be an inclination to believe that anxiety is largely acquired in the preschool years as a result of experiences in the family setting (see Chapter 1). But even if one accepts the idea basic to this project, which is that school anxiety is to a significant degree

Table 17.

Correlates of Over and Under Achievement
For Children Classified by Socio-Cultural
Status, Using Part Correlations
For the Fall, 1965

Variable	^{r}(GPA · CTMM) X MC Anglos (N=154)	ULC Anglos (N=210)	Non Anglos (N=207)
School anxiety	-12	-22**	-07
School motivation	47***	55***	40***
Seriousness of maladaptive behavior	-23**	-29**	-26**
Peer acceptance	29**	31**	22**
Peer rejection	-18*	-20**	-01
Reinterpretation (as a defensive reaction)	05	-02	-16**
Withdrawal (as a defensive reaction)	-29**	-33***	-23**
Aggressiveness (as a defensive reaction)	00	-17*	-25**
Neurotic symptoms in behavior (in school)	03	-18*	-23**

Note: Decimal points have been omitted.
*Significant at .05 level.
**Significant at .01 level.
***Significant at .001 level.

the direct result of school experiences, it still would be likely that early school experience would play a role in the development of school anxiety. There is even reason to believe that these early school experiences have a predominant role. Of course, even if one stresses that anxiety is acquired early, this does not obviate the likelihood that there are significant changes in school anxiety from one school year to another which depend on the quality of children's school experiences and their personal characteristics.

In Chapter 1 it was argued that success and failure experiences in school were important determinants of school anxiety, although it was recognized that individual differences in personality and background experiences probably served to moderate the influence on success and failure. There is also the question of what is meant by success and failure, since it is evident that success and failure are both objectively and subjectively determined. What we mean by this is that to some degree failure is uniformly defined for all children, as when they receive a failing grade; while, at the same time, failure is individually determined, as when children receiving B's see themselves as having "failed" because they were expecting or hoping for A's, or when they see themselves as having been immensely successful because they expected to make C's. One appears to be justified, however, in considering school success and failure as primarily objectively or situationally determined, for there is evidence that success and failure are "standardized" to a considerable degree in the typical school system. Although there are strong ideological and psychological pressures toward individualized standards, expectations, and systems of reward, most school operate largely on a system in which success and failure are uniformly defined and indiscriminantly applied to all children.

Therefore, two types of measures which suggested themselves as measures of the degree of previous success and failure experienced in school were teacher grades and standardized achievement and intelligence tests. Other measures, such as peer acceptance and rejection, would be worthy of inclusion except, of course, that they were not available from the cumulative record from which information on past school history was obtained (see Chapter 2). Teacher grades in subject matter and conduct are an obvious indicator of experiences of success and failure; but the use of achievement and intelligence tests is not so readily justified, although the case for these indicators rests upon research evidence and its implications and evidence more circumspect in nature. For instance, it is known that teachers' observations and evaluations of the behavior of children are strongly influenced by their knowledge of children's intelligence and achievement test performance (e.g. Sarason. 1966). And, although no research evidence comes to mind, it is reasonable to believe that parents' observations and evaluations of their children's behavior is significantly influenced by their general (and specific) knowledge of their children's intelligence and achievement test performance. Thus it would appear that teachers and parents interact with and appraise children to some degree in terms of children's intelligence and achievement test performance, and that these interactions and appraisals in various ways contribute to children's experiences of success and failure. It is further surmised that children gain direct knowledge of their intelligence and achievement test performance through parents and teachers (e.g., How many parents and teachers have used expressions like, "A bright boy like you ought to be doing better"?); through the taking of the tests; by comparing "notes" with other children who have taken the same test; and by overhearing discussions by parents and teachers of their performance.

Earlier it was noted that the influence of prior school experiences might be moderated by personality characteristics; an example of this possibility is proneness toward neuroticism, a syndrome which is heavily infused with what might be called generalized anxiety (see Chapter 2). In terms of our rationale, developed in Chapter 1, it is apparent that proneness toward neuroticism should not be as highly related to early school experiences as school anxiety. Also, in terms of the primacy of first experiences, the first grade ought to be more critical than the second and third grades. Therefore, relationships between school anxiety and first grade school experience ought to be higher than relationships with second and third grade experiences, taking into account the difference in length of time over which the data are to be correlated. These differences, if they exist, ought also to be more pronounced for school anxiety than for proneness toward neuroticism, although it is possible that proneness toward neuroticism makes children more vulnerable to the challenges, stresses, and strains of school, especially those in the first year of school.

With regard to experiences of success and failure in Grades 1-3, as represented by the three variables identified earlier, differences between boys and girls, and between Anglo and Non-Anglo children, ought to occur. From many studies it is evident that girls get better grades than boys in elementary school, although they do not as a rule do better on intelligence and achievement tests; and the feminine orientation of the elementary school was discussed in Chapter 1. Thus, other factors being equal, we would expect early school experiences to be more highly related with school anxiety in fourth grade for boys than girls; and in view of the greater overall readiness of girls for first grade, it is likely that experiences in first grade are especially predictive of school anxiety in boys. Applying the same logic, differences in the amount of failure experienced in school by Non-Anglo children in comparison with Anglo children should be pronounced, from one point of view, and less significant, from another point of view. To explain, if essentially the same curriculum and standards of evaluation of learning are found in schools serving large numbers of Negro and Mexican-American children as are found in other schools, then these children should experience greater school failure, if other factors are equal. However, one might argue that success and failure depend on the characteristics of the school and its student population. For example, there is a quite different chance of success associated with an IQ of 120 in an UMC school where the average IQ is 120 than there is associated with an IQ of 120 in a LC school where the average IQ is 90. At the same time, the degree of utilization of intelligence by children probably varies from one socio-cultural group to another, so that a particular IQ is not associated with the same degree of success, even with other factors equal. In summary, it is likely that schools only partially adjust the curriculum and standards to fit the average child in the school. So, on balance, it would appear that Negro and Mexican-American children experience more failure in school, especially in the early grades. Therefore, relationships between early school experience and school anxiety in fourth grade should be higher for Non-Anglos than Anglos, other factors being equal. Of course, other factors are not equal, and so it becomes very difficult to predict how results will turn out. For example, children's need for school success is important in the development of school anxiety, since failure in matters which are unimportant, and to which children are indifferent, is not likely to be anxiety-producing. Therefore, although in an objective sense boys and Non-Anglo children fail more often and in more ways in school than girls and Anglo children, they may actually experience less failure in school on a subjective basis. In addition, it is likely that there are differences in reaction to failure, and that these different reactions are differentially effective in reducing school anxiety. For instance, aggression appears to be a mode of response which has anxiety-reducing properties (McClelland, 1951); and it is well known that boys are much more aggressive in school than girls. So, it is likely that the differential child-rearing practices associated with sex-role training give boys advantages over girls in coping with some of the situations in school in which anxiety is most likely to occur.

Table 18 presents the data for selected prior school experience variables which were studied as predictors of school anxiety and proneness toward neuroticism at the beginning of fourth grade. The first thing which is evident, on inspection of these results, is that school anxiety is generally more highly related to teacher grades and standardized test performance in Grades 1-3 than is proneness toward neuroticism. This, of course, was not unexpected, since, as noted earlier, our conceptualization of school anxiety requires this. With regard to the possibility of a trend in the relationships across Grades 1-3, there are grade level differences in a number of instances, but no general and uniform trend seems to be present. For example, the number of U's and X's given by teachers for conduct correlates significantly with both SA and PTN only in Grade 1 in the total sample; and, in addition, among females this variable correlates significantly with SA only in Grade 1. Similarly, the number of E's given by teachers for conduct generally correlates higher with SA and PTN in Grade 3 than in the other two grades. Thus, it appears that the significance of teacher evaluations of conduct changes: poor conduct in Grade 1 is more predictive of later SA and PTN than good conduct; but good conduct in Grade 3 is more predictive of later SA and PTN than poor conduct. As to sex differences, it appears that prior school experience is generally more predictive of later SA for girls than boys, with the exception of conduct where predictions are better for boys. With regard to PTN, the only systematic differences between the sexes occurs for the CTMM and the MAT given in Grade 2, where predictions tend to be better for girls. In addition, a number of specific sex differences ought to be noted. For instance, good conduct in Grades 1 and 2 is predictive of later SA for boys, but not for girls. On

Table 18.

Prior School Experience as a Predictor of School Anxiety and Proneness Toward Neuroticism in Fourth Grade (Fall, 1964) for Children Classified into Male, Female, Anglo, and Non-Anglo Subsamples

Variable	School Anxiety (SA)					Proneness toward Neuroticism (PTN)				
	Anglo	Non-Anglo	Male	Female	Total Sample	Anglo	Non-Anglo	Male	Female	Total Sample
Teacher Grades in Subject Matter										
Grade 1	-17*	-05	-18*	-25*	-20*	-19*	-12	-16*	-23*	-20*
Grade 2	-23*	-05	-25*	-29*	-24*	-15*	06	-15*	-11	-11
Grade 3	-25*	02	-24*	-29*	-23*	-23*	14	-14*	-16*	-13
Teacher Grades in Conduct, Number of E's										
Grade 1	-15	-23	-27*	-12	-20*	-03	05	03	-10	-04
Grade 2	-17	-13	-29*	-06	-17*	-04	36*	-01	08	-04
Grade 3	-31*	-21	-49*	-33*	-40*	-12	-05	-18	-24	-23*
Teacher Grades in Conduct, Number of U's,X's										
Grade 1	18	23	16	43*	24*	07	28	20	23	18*
Grade 2	-07	06	07	11	03	-04	10	04	13	03
Grade 3	15	-19	-01	15	-02	06	-08	01	05	01
Basal Reading Level										
Grade 1	-03	-36*	-04	-49*	-29*	02	-16	01	-22*	-12
Grade 2	-21*	-14	-32*	-26*	-27*	-08	06	-09	-10	-09
Grade 3	-16*	-26*	-38*	-28*	-31*	-09	-09	-17*	-14	-15*
Readiness Test, Grade 1										
Reading	-20	09	-12	-26*	-13	04	16	08	-03	06
Number	-18	-12	-28*	-29*	-25*	-04	03	-11	-07	-07
Total	-17	-02	-14	-32*	-21*	-01	09	-01	-05	-02

(Continued)

Prior School Experience as a Predictor of School Anxiety and Proneness Toward Neuroticism in Fourth Grade (Fall 1964) for Children Classified into Male, Female, Anglo, and Non-Anglo Subsamples

Variable	School Anxiety (SA)					Proneness toward Neuroticism (PTN)				
	Anglo	Non-Anglo	Male	Female	Total Sample	Anglo	Non-Anglo	Male	Female	Total Sample
CTMM, Grade 2										
Language (V)	-21*	-18*	-34*	-36*	-34*	-10	-03	-13	-16*	-15*
Non Language (NV)	-21*	-11	-25*	-34*	-29*	-15*	-07	-11	-24*	-18*
Total	-25*	-20*	-36*	-37*	-36*	-14*	-07	-16*	-20*	-18*
MAT, Grade 2										
Reading, Vocabulary	-20*	-19*	-26*	-44*	-32*	-14*	-01	-14*	-25*	-18*
Reading, Comprehension	-24*	05	-15*	-40*	-24*	-18*	08	-12	-24*	-16*
Reading, Total	-22*	-18*	-25*	-47*	-34*	-17*	-04	-15*	-28*	-21*
Arithmetic, Total	-20*	-01	-13	-40*	-25*	-16*	06	-05	-27*	-16*

Note: Decimal points have been omitted. Also subsample N's vary from one variable to another, although the total number of subjects is as follows: Anglo=217, Non-Anglo=145, Male=181, and Total=362.

* Probability of r being zero is less than .05, based on Fisher's transformation.

the other hand, basal reading level in Grade 1 is strongly predictive of later SA for girls, but not for boys; and this is also true for reading readiness in Grade 1, which predicts later SA better for girls. Also, strong sex differences occur for the MAT, administered in Grade 2, since performance is much more predictive of later SA for girls. Turning now to differences between Anglo and Non-Anglo children, it is obvious that prior school experience is generally more predictive of later SA, and to a lesser degree later PTN, for Anglos than for Non-Anglos. One major exception to this general trend, however, should be pointed out. This is the tendency for Grade 1 indicators to more frequently favor Non-Anglos, the outstanding example of this being basal reading level in Grade 1, which is predictive of later SA only for Non-Anglo children. In summary, it would appear that prior school experience, as indicated by teacher grades and standardized achievement and intelligence tests, is more predictive of later SA for girls than for boys, and for Anglos than for Non-Anglos. While differences occur with regard to PTN, they are not as consistent and as pronounced as those for SA.

Styles of Defensiveness

Approach and avoidance tendencies in general (as developed in Chapter 1), and test-taking attitudes specifically, may exist at both a conscious and an unconscious level, i.e., children may knowingly and with forethought distort their responses, or they may do it without awareness. The most extensive earlier investigation of test-taking attitudes is the work on the F, L, and K Scales of the MMPI (Meehl and Hathaway, 1946). Giving subjects the opportunity to distort their responses was their direct approach to the problem of test-taking attitudes, and we have applied this method as our approach to the problem of styles of defensiveness. Actually, we gave children the opportunity to respond in a very favorable way with regard to school situations, but in a way which could not really be true for the large majority of children. That is, we presented children with a number of school behaviors, attitudes, traits, and situations which are highly desirable but infrequently performed, manifested, or present in the school life and personal characteristics of the majority of children.

At the same time, we presented them with a number of school behaviors, attitudes, traits, and situations which are generally thought to be undesirable, but are frequently performed, manifested, or present in the school life and personal characteristics of the majority of children. Thus, they had the opportunity to accentuate the positive, or to diminish the negative, and the first of these tendencies we refer to as an aspect of the approach style of defensiveness and the second we think of as an aspect of the avoidance style of defensiveness. Or to put it another way, if behaviors, attitudes, traits, and situations can be put on a good-bad continuum, then the first set of characteristics tend to be good, and the second set tend to be bad. So, as children report on themselves they can distort their responses in either direction or in both directions at the same time. However, if one considers the true position of children in relation to desirable and undesirable characteristics, one might suppose that children, in terms of their true position, fall along this good-bad continuum in a more or less normal distribution. Thus, some children actually are closer to the "good" than the "bad" end of the continuum, while others are closer to the "bad" than the "good" end. Therefore, we might expect children on the "bad" side of the continuum to distort their responses by moving away from negative characteristics, i.e., by evidencing an avoidance pattern. And those who are nearer the "good" end might be prone to distort their responses by moving toward positive characteristics, i.e., by evidencing an approach pattern. Specifically, if one considers the "true" characteristics of children, and assumes that these serve as a reference point, then two predictions are feasible: first, those who have mostly undesirable characteristics will distort their responses by "moving away" from negative characteristics in self reports; and second, those who have mostly desirable characteristics will distort their responses by "moving toward" positive characteristics in self reports. Thus, we are led to expect that D_{AP} and D_{AV} will be negatively related.

Another approach to the problems of defensiveness would be analogous to the rationale of the F scale of the MMPI, which consists of items answered in one direction by most people and which is scored for deviant responses, i.e., answering in the opposite direction. The items making up the defensiveness factor (which were redistributed into sets conceptually identified with approach and avoidance tendencies - See Chapter 2) generally were responded to in the same direction by two-thirds or more of the children. Also, it is a fact that the approach tendency items were scored in the popular direction, while the avoidance tendency items were scored in the nonpopular direction. Thus, considering the two sets of items together, one has a measure of deviancy of response which is similar to the F scale, with the exception that the F scale contains few items describing virtues, positive situations, and the like. Furthermore, high deviancy scores of this type might reflect carelessness in responding, random responding, and so forth; but, as in the case of the F scale, they might also have a significance in personality processes.

In more recent research of this type, social desirability is a construct which has come in for much attention; and it is obvious that the approach tendency, as defined and measured in this project, may overlap considerably with social desirability, since the approach items describe positive characteristics, and children's scores depend on the number endorsed or agreed to. However, avoidance items describe negative characteristics which actually are endorsed by the big majority of children, although a high avoidance tendency depends on failure to endorse the items. Also, it should be noted that social desirability scales usually contain a broad range of content, while the approach and avoidance tendency scales in this project are more narrowly focused on school-related content. Furthermore, since a high avoidance tendency is in reality made up of responses in a socially desirable direction, it, too, should be positively correlated with social desirability, if social desirability is actually what is being measured by the avoidance scale. To check on these specific possibilities, and to examine the correlates of variables of this type, the Children's Social Desirability Scale (Crandall, Crandall, and Katkovsky, 1965) was administered in the Spring, 1966 to a small, representative sample of children.

The relationships between approach (D_{AP}) and avoidance (D_{AV}) styles of defensiveness and the major variables of this project are given in Table 19. There we see that D_{AP} is consistently negatively related to D_{AV}, as predicted. In addition, D_{AV} is strongly negatively related to SA, which is consistent with most of the research which has

Table 19.

Correlates of Approach (D_{AP}) and Avoidance (D_{AV}) Styles of Defensiveness in Total Sample

Variables	Defensiveness (Av)				Defensiveness (Ap)			
	T_1	T_2	T_3	T_4	T_1	T_2	T_3	T_4
School Anxiety (SA)	-58*	-48*	-49*	-38*	20*	19*	10*	07
School Motivation (SM)	-08	-07	-12*	-07	14*	18*	22*	14*
Sex-linked Attitudes, Interests (S)	08	12*	28*	22*	-19*	-23*	-28*	-21*
Self Disparagement, in Relation to Peers (SD)	02	06	30*	29*	-31*	-34*	-48*	-38*
Feelings of Inferiority (FI)	-02	-01	04	-07	-07	-03	-07	-02
Neurotic Symptoms, Academic (NA)	02	04	08	01	-03	-05	-07	-01
Neurotic Symptoms, Social (NS)	03	08	07	NA	-09	-09	-08	NA
Aggression with Independence Strivings (AI)	00	02	15*	09	-06	-05	-19*	-12*
Active Withdrawal (AW)	-02	00	11*	02	-12*	-09	-18*	-05
Emotional Disturbance with Depression (ED)	06	00	-02	-07	01	-08	02	-10*
Self Enhancement through Derogation of Others (SE)	00	00	-06	-10*	-04	-02	06	11*
Diffuse Hyperactivity (DH)	04	02	13*	NA	-09	-10*	-18*	NA
Peer Acceptance	-19*	04	-12*	05	20*	02	15*	04
Peer Rejection	10*	05	06	04	-01	-07	-09	-01
MAT Non-Verbal Achievement	10*	01	06	05	-03	-08	-06	03
MAT Verbal Achievement	06	-05	00	00	-02	-08	00	05
CTMM Non-Verbal IQ	08	-07	07	04	00	-01	01	-03
CTMM Verbal IQ	08	-09	05	-03	-03	-03	01	00
Proneness toward Neuroticism (PTN)	-34*	-14*	-10*	-17*	-12*	-23*	-29*	-23*

Table 19.
(Continued)
Correlates of Approach (D_{AP}) and Avoidance (D_{AV}) Styles of Defensiveness in Total Sample

	Defensiveness (Av)				Defensiveness (Ap)			
Variables	T_1	T_2	T_3	T_4	T_1	T_2	T_3	T_4
Grade Point Average (GPA)	-05	08	-03	-05	-01	05	08	16*
Avoidance Style of Defensiveness (D_{AV})					-40*	-44*	-55*	-59*

Note: Decimal points have been omitted.
* Probability that r is not zero is beyond .05 level, using Fisher's transformation.

been reported. However, D_{AP} is positively related to SA, although the relationship is not nearly as strong as it was for D_{AV}. To explain this positive relationship, one could raise the possibility of acquiescence, since high SA and D_{AP} scores could be obtained that way. But if this were true, then S and SD should be correlated with D_{AP} in the same way, and this obviously is not the case, since the correlations actually are reversed. Perhaps a clue to the real significance of D_{AP} is found in its r's with SM which are positive. Here we have different sources of information - D_{AP} being based on self reports and SM being based on teacher observation. What appears to be a more reasonable explanation is that children who "move toward" positive characteristics in responding to self reports, i.e., who evidence an approach pattern, tend to display the positive characteristics identified with being a good student. Such children also tend to have less masculine attitudes and interests (S) and tend to disparage themselves less in relation to peers (SD). They also are somewhat less aggressive (and independent), are better accepted by peers (PA), and show fewer indications of active withdrawal (AW) and diffuse hyperactivity (DH). And lastly, they have fewer indications of a proneness toward neuroticism (PTN). All in all, it appears that the approach style of defensiveness is not highly specific, for there are a number of classroom behaviors which are related to it.

DAV, on the other hand, is consistent in showing contrasting relationships. High D_{AV} children tend to be less motivated (SM), to have more masculine interests and attitudes (S), to disparage themselves more, and to be less accepted by peers (PA). However, they have fewer indications of a proneness toward neuroticism, the same as D_{AP} children.

In Table 20 the correlates of social desirability are shown, although it should be remembered that the CSD was administered in the Spring, 1966 to only a small representative sample of children. Although a number of the r's are as large as they are in Table 19, most do not reach an acceptable level of statistical significance. However, social desirability is positively related to peer rejection (but not among Non-Anglo children), and positively related to the approach style of defensiveness. And, it is negatively related to proneness toward neuroticism, CTMM Verbal IQ, and

Table 20.

Correlates of Social Desirability (SD) In Spring, 1966

Variable	Anglo (N=33)	Non Anglo (N=30)	Total (N=63)
School Anxiety (SA)	-17	-18	-23
School Motivation (SM)	-20	08	-10
Sex-linked Attitudes, Interest (S)	16	12	14
Self Disparagement in Relation to Peers(SD)	-05	-05	-10
Feelings of Inferiority (FI)	03	03	01
Neurotic Symptoms, Academic (NA)	04	-03	03
Neurotic Symptoms, Social (NS)	03	-12	-08
Aggression with Independence Strivings(AI)	-18	-03	-09
Active Withdrawal (AW)	23	-14	05
Emotional Disturbance with Depression (ED)	-03	-11	-16
Self Enhancement Through Derogation of Others (SE)	25	28	19
Diffuse Hyperactivity (DH)	16	-12	-03
Peer Acceptance (PA)	-18	-15	-17
Peer Rejection (PR)	46*	18	40*
MAT Non-Verbal Achievement	07	-23	-08
MAT Verbal Achievement	01	-24	-30*
CTMM Non-Verbal IQ	01	04	-19
CTMM Verbal IQ	01	-16	-29*
Proneness toward Neuroticism (PTN)	-44*	-40*	-33*
Grade Point Average (GPA)	-16	-10	01
Approach Style of Defensiveness(D_{AP})	06	22	28*
Avoidance Style of Defensiveness(D_{AV})	-29	-02	-11

Note: Decimal points have been omitted.
*Probability of r being zero is less than .05

MAT verbal achievement.

Cross-lagged Correlational Analyses of Variables as Antecedents And Consequences of School Anxiety

In Chapter 1 the application of the cross-lagged correlational design as a means of identifying antecedents (causes) and consequences (effects) of school anxiety was discussed in detail, and it would be redundant to repeat that discussion here. It should be remembered, however, that the essence of this quasi-experimental design is that a cause measured at T_1 should correlate higher with an effect measured at T_2 than the same cause measured at T_2 correlates with the same effect measured at T_1. Another point which should be remembered is that a cross-lagged correlation, when appropriately used in this way, represents only the primary direction of the cause-effect relationship. That is, A may be a cause of B, and B may be a cause of A; but if A is primarily the cause, and B is primarily the effect, then this should be reflected in the cross-lagged results. Of course, interactive relationships of this kind are to be expected in regard to antecedents and effects of school anxiety, since the responses to school anxiety by their nature ought to frequently function as secondary causes of school anxiety.

In Table 21 cross-lagged correlations are presented for the total sample for the three time periods of interest, which are T_1 to T_2, T_2 to T_3, and T_3 to T_4. For each pair of these cross-lagged r's (i.e., r_{12} and r_{21}, r_{23} and r_{32}, and r_{34} and r_{43}), the significance of the difference between the two r's was computed using Olkin's (1965) test. However, none of the differences reached an acceptable level of significance; and so further discussion of Table 21 is unnecessary at this time.

Changes in Variables under In-school and Out-of-School Influences

In Chapter 1 a general conceptual model was developed for relating observed changes in school anxiety and other variables to the conditions of being in school and not being in school; and in this section the first step in implementing this rationale is taken. What we plan to do is to show whether there are significant

Table 21.

Variables Cross-lagged with School Anxiety
In the Total Sample

Variable	r_{12}	r_{21}	r_{23}	r_{32}	r_{34}	r_{43}
School Motivation (SM)	03	-08	-10*	-07	-08	-10*
Sex-linked Interests, Attitudes (S)	-24*	-12*	-21*	-25*	-13*	-22*
Self Disparagement in Relation to Peers(SD)	10*	11*	09	07	11*	25*
Avoidance Style of Defensiveness (D_{AV})	-24*	-31*	NA	-29*	-38*	-49*
Approach Style of Defensiveness (D_{AP})	07	07	NA	09	14*	10*
Feelings of Inferiority (FI)	-07	02	-01	07	04	-02
Neurotic Symptoms, Academic (NA)	04	13*	08	13*	07	01
Neurotic Symptoms, Social (NS)	00	07	-03	00	00	-02
Agression with Independence Strivings (AI)	03	09	-01	01	00	-01
Active Withdrawal (AW)	03	07	03	06	12*	04
Emotional Disturbance with Depression(ED)	-01	04	01	05	12*	-02
Self Enhancement Through Derogation of Others (SE)	00	07	00	05	05	00
Diffuse Hyperactivity (DH)	01	06	01	01	00	00
Peer Acceptance (PA)	01	-04	-02	00	-17*	-01
Peer Rejection (PR)	15*	12*	15*	16*	08	15*
MAT Non-Verbal (NV)	-42*	-35*	-26*	-40*	-29*	-29*
MAT Verbal (V)	-38*	-29*	-35*	-33*	-31*	-32*
CTMM Non-Verbal (NV)	-33*	-26*	-29*	-34*	-34*	-37*
CTMM Verbal (V)	-35*	-26*	-31*	-35*	-35*	-37*
Proneness toward Neuroticism (PTN)	24*	23*	32*	35*	39*	46*
Grade Point Average (GPA)	-27*	-26*	-26*	-28*	-18*	-23*

Note: Decimal points have been omitted
*Probability of r being zero is less than .05

changes in the means of these variables over the four periods of measurement, and, if so, to identify the nature of these changes and whether they fit the requirements of the conceptual model. It will be remembered, also, that a conceptual basis was developed in Chapter 1 for the belief that there are systematic differences in the in-school and out-of-school environment of children with different sex and socio-cultural status. So, for this reason, subsequent analyses of changes in variables under in-school and out-of-school conditions were carried out separately for each of these sex and socio-cultural status subsamples.

The Treatments X Subjects Design. One of our major interests in this project was in the differentiation of two types of "treatments" to which children are exposed in the course of their schooling. In the first of these, children are under the direct influence of maturation, the in-school environment, and the out-of-school environment; and this is the state of affairs during the school years. While in the other treatment, children are just under the direct influence of maturation and the out-of-school environment; and this is the state of affairs during the summer months. (Parenthetically, a check revealed that practically none of the children in our sample attended summer school in 1965, so no effort was made to take this into account.) Although these treatments are not controlled and manipulated, the children in fact have moved through these treatments as they might under a program of planned, experimental manipulation, if that were possible. It appears, therefore, that data gathered in regard to these treatments are amenable to a treatments X subjects design (Edwards, 1964), and we will now proceed to discuss its application to the problem.

Actually, these two treatments were repeated twice, and data on the variables studied were gathered at the end of each treatment (of course the end of one treatment is the beginning of the next). Specifically, data were gathered at the beginning of fourth grade (i.e., the end of the first "maturation + out-of-school environment" treatment), at the end of fourth grade (i.e., the end of the first "maturation + in-school environment + out-of-school environment" treatment), at the beginning of the fifth grade (i.e., the end of the second "maturation + out-of-school environment" treatment), and the end of fifth grade (i.e. the end of the second "maturation +

in-school environment + out-of-school environment" treatment). More accurately speaking, the first set of measurements at the beginning of 4th grade may be considered the result of cumulations of maturation and in-school and out-of-school environmental effects prior to this time, and the subsequent sets of measurements are the results of increments of change supposedly associated with the continued influence of maturation and the in-school and out-of-school environment.

Basing our use of the treatments X subjects design on Lindquist's (1953, Chapter 6) presentation, the first point of interest is to establish whether there are differences in the means of the four sets of data obtained for each criterion measure. For example, if we have measured school achievement, using a standardized test, on the four occasions the thing we want to know is whether the means for the four occasions differ. More specifically, however, we want to know whether the differences between T_1 and T_2, T_2 and T_3, and T_3 and T_4 are significant, since it is these differences which we want to check against our rationale. In general, if in-school influences are making a significant contribution to the criterion variable and out-of-school influences are not, the differences between T_1 and T_2, and T_3 and T_4 will be significant, and the difference between T_2 and T_3 will not be - assuming all other factors are equal, and that the criterion variable is functionally related to in-school (and out-of-school) conditions in accordance with the underlying rationale. If both are making a significant contribution, the differences between each of these pairs of means (i.e. T_1 and and T_2, T_2 and T_3, and T_3 and T_4) will be significant; but the difference between T_1 and T_2, and T_3 and T_4 will be significantly larger than the difference between T_2 and T_3 - although a direct statistical test of this possibility has not been carried out. Finally, it should be noted that the in-school influence might, in some instances, be in a direction opposite to that of the out-of-school influence, and the extent to which this is true is the extent to which the differences will be obliterated. In this event, the rationale concerns only the relative strengths of the in-school and out-of-school influences and the statistical tests will reflect only the relative strengths of these incompatible influences.

The results of all the analyses of variance which are pertinent to this problem are presented in Tables 22-33, although it should be pointed out that these tables are primarily used in the section dealing with interactions between shifts in school anxiety (during T_1 and T_2, T_2 and T_3, and T_3 and T_4) and treatments. Separate T X S analyses were carried out for the following subsamples: Anglo males (Tables 22-24), Anglo females (Tables 25-27), Non-Anglo males (Tables 28-30), and Non-Anglo females (Tables 31-33). In addition, for each of these subsamples there are separate analyses of variance for the T_1 and T_2 period, the T_2 and T_3 period, and the T_3 and T_4 period. Altogether, therefore, there are twelve analyses of variance tables, each containing a separate analysis of variance for each of the major variables studied. Since data concerning the shifts in school anxiety between T_1 and T_2, T_2 and T_3, and T_3 and T_4 are not to be used until a later section, no further information on the nature of these groups will be given here. All we are interested in at this point are the means on all the variables at T_1, T_2, T_3, and T_4; and these data (which also appear in scattered form in Tables 22-33) are brought together to facilitate inspection, comprehension, and interpretation in Table 34.

In dealing with the results of Table 34 we will discuss differences across time, which have been tested for statistical significance; and, in addition, we will discuss differences between sex and socio-cultural status groups, although (as we previously noted) no direct statistical tests of these differences were computed.

1. School Anxiety (SA)

With respect to SA two points should be made: one of these concerns the large differences between Anglo and Non-Anglo children in SA, and the other concerns the variation in sex differences among Anglos and Non-Anglos. Generally, Anglo sex differences are smaller, as we would expect in terms of what is known about sex-role differences between boys and girls in Anglo and Non-Anglo cultures, and the association of defensiveness with sex differences - see Chapter 1. Also, these sex differences are fully in accord with what others have found, and, although studies of Negro and Mexican-American children are more difficult to find, the higher anxiety of these

TABLE 22.

T X S ANALYSES OF VARIANCE FOR ANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_1 AND T_2

GROUP 1	17 SUBJECTS.	ANGLO MALE	HI SHIFT
GROUP 2	19 SUBJECTS.	ANGLO MALE	HI....NO SHIFT
GROUP 3	21 SUBJECTS.	ANGLO MALE	LO....NO SHIFT
GROUP 4	21 SUBJECTS.	ANGLO MALE	LO SHIFT

MAT NONVERBAL (NV)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.7628	155.		
BETWEEN	0.7591	77.		
GROUPS	0.4007	3.	0.518	0.6754
ERROR (G)	0.7736	74.		
WITHIN	0.7666	78.		
TRIALS	50.8898	1.	435.272	0.0000
G BY T	0.0843	3.	0.721	0.5456
ERROR (T)	0.1169	74.		

G MEAN	1	2	3	4
	4.5588	4.5789	4.7810	4.6310

T MEAN	1	2
	4.0718	5.2141

G BY T	1	2
1	4.0529	5.0647
2	3.9684	5.1895
3	4.2238	5.3381
4	4.0286	5.2333

MAT VERBAL (V)

```
  SOURCE      MEAN SQUARE       D.F.      F-RATIO         P

  TOTAL          3.2409         155.

  BETWEEN        4.8715          77.

   GROUPS        1.8655           3.        0.374       0.7753

   ERROR (G)     4.9934          74.

  WITHIN         1.6311          78.

   TRIALS       75.3242           1.      111.507       0.0000

   G BY T        0.6391           3.        0.946       0.5754

   ERROR (T)     0.6755          74.

  G MEAN              1           2           3           4
                 5.0765      5.3763      5.4643      5.6095

  T MEAN              1           2
                 4.7026      6.0923

  G BY T              1           2

     1           4.5176      5.6353

     2           4.7211      6.0316

     3           4.6000      6.3286

     4           4.9381      6.2810

   GROUP 1     24 SLBJECTS.               ANGLC MALE   HI SHIFT

   GROUP 2     26 SLBJECTS.               ANGLC MALE   HI....NO SHIFT

   GROUP 3     26 SLBJECTS.               ANGLC MALE   LC....NO SHIFT

   GROUP 4     25 SLBJECTS.               ANGLC MALE   LO SHIFT

   TOTAL =   1)1 SLBJECTS.

   DEGREES CF FREECCM

        3 ANC     97 FCR GROUPS.

        1 ANC     97 FCR TREATMENTS.

        3 ANC     97 FCR INTERACTICN.
```

SCHOOL ANXIETY (SA)

```
GROUPS F RATIO =  17.281      P = .0000

MEANS.         26.2708    32.4038    11.5769    26.5800

TREATMENTS F RATIO =   1.172      P = .2814

MEANS.         23.7822    24.5050

INTERACTION F RATIO = 125.852     P = .0000

GROUP  1       16.5417    36.0000

GROUP  2       32.5000    32.3077

GROUP  3       10.5385    12.6154

GROUP  4       35.4400    17.7200
```

SEX-LINKED INTERESTS, ATTITUDES (S)

```
GROUPS F RATIO =     .247      P = .8640

MEANS.         10.1667    10.1538     9.9615     9.7200

TREATMENTS F RATIO =  26.893      P = .0000

MEANS.          9.2574    10.7426
INTERACTION F RATIO =    .471      P = .7074
GROUP  1        9.1250    11.2083
GROUP  2        9.4615    10.8462
GROUP  3        9.3077    10.6154
GROUP  4        9.1200    10.3200
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
GROUPS F RATIC =   1.935      P = .1275

MEANS.          4.3333     4.5769     3.5962     3.7400

TREATMENTS F RATIC =  14.170      P = .0005

MEANS.          3.5644     4.5545

INTERACTION F RATIC =   1.204      P = .3120

GROUP  1        3.5000     5.1667

GROUP  2        4.2308     4.9231

GROUP  3        2.9615     4.2308

GROUP  4        3.5600     3.9200
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
GROUPS F RATIO =    2.194      P = .0923

MEANS.        12.9375   13.8462   12.2308   13.2600

TREATMENTS F RATIC =    .182     P = .6746

MEANS.        13.0099   13.1287

INTERACTICN F RATIC =  11.443     P = .0000

GROUP  1      11.9167   13.9583

GROUP  2      13.9615   13.7308

GROUP  3      11.6923   12.7692

GROUP  4      14.4400   12.0800
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
GROUPS F RATIC =    .766      P = .5184

MEANS.        13.3958   13.2885   14.3269   13.4000


TREATMENTS F RATIC =    7.488      P = .0074

MEANS.        14.0693   13.1485

INTERACTICN F RATIC =   1.051      P = .3745

GROUP  1      13.7500   13.0417

GROUP  2      13.7692   12.8077

GROUP  3      14.4231   14.2308

GROUP  4      14.3200   12.4800
```

GROUP 1   12 SUBJECTS.

GROUP 2   18 SUBJECTS.

GROUP 3   15 SUBJECTS.

GROUP 4   16 SUBJECTS.

CTMM VERBAL (V)

```
SOURCE        MEAN SQUARE      D.F.       F-RATIO         P

TOTAL            193.8372      121.

BETWEEN          323.7549       60.

 GROUPS          137.8594        3.          0.413       0.7476

 ERROR (G)       333.5389       57.

WITHIN            66.0492       61.

 TRIALS         1285.3750        1.         28.689       0.0000

 G BY T           63.2656        3.          1.412       0.2476

 ERROR (T)        44.8040       57.

G MEAN              1            2            3             4
               105.8750     105.4167     109.4667      109.0625


T MEAN              1            2
               104.2131     110.7049

G BY T              1            2

    1          100.5833     111.1667

    2          103.5556     107.2778

    3          106.8000     112.1333

    4          105.2500     112.8750
```

CTMM NONVERBAL (NV)

```
SOURCE        MEAN SQUARE      D.F.       F-RATIO         P
TOTAL            196.5910      121.

BETWEEN          302.0753       60.

 GROUPS          332.4896        3.          1.107       0.3544

 ERROR (G)       300.4745       57.

WITHIN            92.8361       61.

 TRIALS         2872.6563        1.         59.549       0.0000

 G BY T           13.5521        3.          0.281       0.8403

 ERROR (T)        48.2401       57.

G MEAN              1            2            3             4
               109.2083     103.0556     108.5333      109.9063
```

```
T MEAN           1          2
             102.5574   112.2623


G BY T           1          2

   1         104.2500   114.1667
   2          98.1111   108.0000
   3         104.6000   112.4667
   4         104.3750   115.4375

GROUP 1     21 SUBJECTS.
GROUP 2     25 SUBJECTS.
GROUP 3     24 SUBJECTS.
GROUP 4     21 SUBJECTS.
```

GRADE POINT AVERAGE (GPA)

```
SOURCE        MEAN SQUARE      D.F.      F-RATIO        P
TOTAL             8.8228       181.
BETWEEN          15.1769        90.
  GROUPS         14.2256         3.       0.935      0.5709
  ERROR (G)      15.2097        87.
WITHIN            2.5385        91.
  TRIALS         48.5493         1.      24.025      0.0000
  G BY T          2.2148         3.       1.096      0.3556
  ERROR (T)       2.0208        87.

G MEAN              1            2            3            4
                12.1190      12.8600      13.3750      13.2857

T MEAN              1            2
                12.4066      13.4396

G BY T              1            2

    1           11.5714      12.6667
    2           12.6400      13.0800
    3           12.7500      14.0000
    4           12.5714      14.0000
```

```
GROUP 1     23 SUBJECTS.

GROUP 2     25 SUBJECTS.

GROUP 3     26 SUBJECTS.

GROUP 4     23 SUBJECTS.


SCHOOL MOTIVATION (SM)

SOURCE      MEAN SQUARE       D.F.      F-RATIO        P

TOTAL           51.8627       193.

BETWEEN         91.0522        96.

 GROUPS         38.1960         3.        0.412      0.7485

 ERROR (G)      92.7572        93.

WITHIN          13.0773        97.

 TRIALS          1.8604         1.        0.139      0.7115

 G BY T          7.2731         3.        0.543      0.6581

 ERROR (T)      13.3852        93.

G MEAN             1            2            3          4
              23.3478      25.2000      23.6538    23.3696

T MEAN             1            2
              24.0103      23.8144

G BY T             1            2

    1         23.8261      22.8696

    2         25.4400      24.9600

    3         23.7692      23.5385

    4         22.9130      23.8261
```

```
GROUP 1    24 SUBJECTS.

GROUP 2    26 SUBJECTS.

GROUP 3    26 SUBJECTS.

GROUP 4    25 SUBJECTS.

FEELINGS OF INFERIORITY (FI)

SOURCE      MEAN SQUARE      D.F.      F-RATIO      P

TOTAL            0.8474      201.

BETWEEN          1.0034      100.

 GROUPS          0.4617        3.        0.453     0.7200

 ERROR (G)       1.0201       97.

WITHIN           0.6931      101.

 TRIALS          0.3168        1.        0.457     0.5076

 G BY T          0.8306        3.        1.199     0.3140

 ERROR (T)       0.6927       97.


G MEAN              1           2           3           4
               1.2292      1.4615      1.3462      1.3800


T MEAN              1           2
               1.3168      1.3960


G BY T              1           2

    1          1.1250      1.3333

    2          1.4231      1.5000

    3          1.1923      1.5000

    4          1.5200      1.2400
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

   SOURCE      MEAN SQUARE      D.F.       F-RATIO          P

   TOTAL            1.2064      201.

   BETWEEN          1.7398      100.

    GROUPS          0.6629        3.        0.374        0.7752

    ERROR (G)       1.7731       97.

   WITHIN           0.6782      101.

    TRIALS          0.1238        1.        0.179        0.6769

    G BY T          0.4154        3.        0.600        0.6204

    ERROR (T)       0.6921       97.

   G MEAN            1           2           3            4
                  1.3958      1.6538      1.4615       1.4400

   T MEAN            1           2
                  1.4653      1.5149

   G BY T            1           2

      1           1.5000      1.2917

      2           1.6154      1.6923

      3           1.3462      1.5769

      4           1.4000      1.4800


NEUROTIC SYMPTOMS, SOCIAL (NS)

   SOURCE      MEAN SQUARE      D.F.       F-RATIO          P

   TOTAL            1.1021      201.

   BETWEEN          0.5152      100.

    GROUPS          0.8359        3.        1.654        0.1806

    ERROR (G)       0.5053       97.

   WITHIN           1.6832      101.

    TRIALS        117.4059        1.      224.636        0.0000

    G BY T          0.6323        3.        1.210        0.3099

    ERROR (T)       0.5227       97.

   G MEAN            1           2           3            4
                  0.8125      0.6731      0.6731       0.9400
```

```
T MEAN            1          2
             1.5347     0.0099

G BY T            1          2

    1        1.6250    -0.0000

    2        1.3462    -0.0000

    3        1.3462    -0.0000

    4        1.8400     0.0400
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE       MEAN SQUARE       D.F.     F-RATIO          P

TOTAL             1.6735       201.

BETWEEN           2.2638       100.

 GROUPS           2.2111         3.       0.976     0.5912

 ERROR (G)        2.2654        97.

WITHIN            1.0891       101.

 TRIALS           0.0198         1.       0.018     0.8881

 G BY T           1.5112         3.       1.390     0.2493

 ERROR (T)        1.0871        97.

G MEAN            1          2           3           4
             1.5417     1.7885      1.2885      1.4800

T MEAN            1          2
             1.5149     1.5347

G BY T            1          2

    1        1.7083     1.3750

    2        1.6154     1.9615

    3        1.1538     1.4231

    4        1.6000     1.3600
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE       MEAN SQUARE       D.F.     F-RATIO          P

TOTAL             1.3954       201.

BETWEEN           1.9248       100.
```

```
  GROUPS          1.2102      3.        0.622      0.6066

  ERROR (G)       1.9469     97.

 WITHIN           0.8713    101.

  TRIALS          0.7129      1.        0.849      0.6379

  G BY T          1.9311      3.        2.299      0.0810

  ERROR (T)       0.8401     97.

 G MEAN             1          2          3          4
                 1.8958     1.6731     1.5385     1.8000

 T MEAN             1          2
                 1.7822     1.6634

 G BY T             1          2

     1           2.0000     1.7917

     2           1.6154     1.7308

     3           1.4231     1.6538

     4           2.1200     1.4800
```

EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)

```
 SOURCE      MEAN SQUARE     D.F.     F-RATIO       P

 TOTAL            1.2830    201.

 BETWEEN          1.9288    100.

  GROUPS          0.2148      3.        0.108      0.9542

  ERROR (G)       1.9818     97.

 WITHIN           0.6436    101.

  TRIALS          0.0792      1.        0.124      0.7253

  G BY T          1.0683      3.        1.679      0.1751

  ERROR (T)       0.6362     97.

 G MEAN             1          2          3          4
                 1.2917     1.4231     1.3846     1.4400

  T MEAN            1          2
                 1.3663     1.4059

 G BY T             1          2

     1           1.2083     1.3750
```

```
    2          1.5000     1.3462

    3          1.1923     1.5769

    4          1.5600     1.3200


SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

  SOURCE      MEAN SQUARE      D.F.       F-RATIO         P

  TOTAL            0.2262      201.

  BETWEEN          0.2897      100.

   GROUPS          0.0948        3.        0.321       0.8127

   ERROR (G)       0.2957       97.

  WITHIN           0.1634      101.

   TRIALS          0.0050        1.        0.029       0.8584

   G BY T          0.0592        3.        0.352       0.7906

   ERROR (T)       0.1682       97.

  G MEAN           1          2           3           4
                 1.1667     1.2500      1.1538      1.2000

  T MEAN           1          2
                 1.1980     1.1881

  G BY T           1          2

    1            1.2083     1.1250

    2            1.2692     1.2308

    3            1.1538     1.1538

    4            1.1600     1.2400


DIFFUSE HYPERACTIVITY (DH)

  SOURCE      MEAN SQUARE      D.F.       F-RATIO         P

  TOTAL            0.8027      201.

  BETWEEN          0.3285      100.

   GROUPS          0.1657        3.        0.497       0.6896

   ERROR (G)       0.3336       97.

  WITHIN           1.2723      101.

   TRIALS         95.6485        1.      286.759       0.0000
```

```
 G BY T          0.1657       3.        0.497      0.6896

 ERROR (T)       0.3336      97.

G MEAN             1          2           3           4
                0.7083     0.7500      0.6154      0.6800

T MEAN             1          2
                1.3762     0.0000

G BY T             1          2

   1            1.4167    -0.0000

   2            1.5000    -0.0000

   3            1.2308    -0.0000

   4            1.3600    -0.0000

GROUP 1     22 SUBJECTS.              ANGLO MALE    HI SHIFT
GROUP 2     23 SUBJECTS.              ANGLO MALE    HI....NO SHIFT
GROUP 3     26 SUBJECTS.              ANGLO MALE    LO....NO SHIFT
GROUP 4     25 SUBJECTS.              ANGLO MALE    LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           0.0305       191.

BETWEEN         0.0460        95.

 GROUPS         0.0427         3.        0.925      0.5662

 ERROR (G)      0.0461        92.

WITHIN          0.0151        96.

 TRIALS         0.0019         1.        0.122      0.7283

 G BY T         0.0089         3.        0.574      0.6378

 ERROR (T)      0.0154        92.

G MEAN             1          2           3           4
                1.1666     1.2398      1.1902      1.1930

T MEAN             1          2
                1.2005     1.1943
```

```
G BY T           1          2
   1          1.1818     1.1514
   2          1.2426     1.2370
   3          1.1754     1.2050
   4          1.2044     1.1816

PEER REJECTION
 SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
 TOTAL            0.0354      191.
 BETWEEN          0.0559       95.
  GROUPS          0.0704        3.        1.271     0.2882
  ERROR (G)       0.0554       92.
 WITHIN           0.0151       96.
  TRIALS          0.0219        1.        1.432     0.2325
  G BY T          0.0085        3.        0.554     0.6512
  ERROR (T)       0.0153       92.

 G MEAN           1          2            3          4
               1.1477     1.2220       1.1519     1.2100

 T MEAN           1          2
               1.1935     1.1722

 G BY T           1          2
    1          1.1427     1.1527
    2          1.2313     1.2126
    3          1.1608     1.1431
    4          1.2376     1.1824
    GROUP 1     11 SUBJECTS.

    GROUP 2     18 SUBJECTS.

    GROUP 3     18 SUBJECTS.

    GROUP 4     17 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

    TOTAL            9.8351      127.

    BETWEEN         14.0723       63.

     GROUPS         48.0364        3.       3.882      0.0132

     ERROR (G)      12.3741       60.

    WITHIN           5.6641       64.

     TRIALS          0.0078        1.       0.001      0.9689

     G BY T         10.4862        3.       1.901      0.1378

     ERROR (T)       5.5172       60.

    G MEAN            1            2           3           4
                   9.7727      10.6389      7.8611      9.5294

    T MEAN            1            2
                   9.4063       9.4219

    G BY T            1            2

       1           9.0000      10.5455

       2          10.4444      10.8333

       3           7.8333       7.8889

       4          10.2353       8.8235
```

TABLE 23.

T X S ANALYSES OF VARIANCE FOR ANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_2 AND T_3

```
GROUP 1    17 SUBJECTS.            ANGLO MALE   HI SHIFT
GROUP 2    20 SUBJECTS.            ANGLO MALE   HI....NO SHIFT
GROUP 3    22 SUBJECTS.            ANGLO MALE   LO....NO SHIFT
GROUP 4    19 SUBJECTS.            ANGLO MALE   LO SHIFT

NAT NONVERBAL (NV)

SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
TOTAL            0.4134      155.
BETWEEN          0.7489       77.
 GROUPS          0.9899        3.        1.339      0.2672
 ERROR (G)       0.7391       74.
WITHIN           0.0822       78.
 TRIALS          0.6669        1.        8.807      0.0043
 G BY T          0.0462        3.        0.611      0.6141
 ERROR (T)       0.0757       74.

G MEAN              1           2           3           4
               5.4676      5.1325      5.3705      5.1605

T MEAN              1           2
               5.2141      5.3449

G BY T              1           2
     1         5.3765      5.5588
     2         5.0650      5.2000
     3         5.3500      5.3909
     4         5.0684      5.2526
```

```
MAT VERBAL (V)

 SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
 TOTAL            4.0410      155.
 BETWEEN          7.5692       77.
  GROUPS         15.1908        3.         2.092      0.1072
  ERROR (G)       7.2602       74.
 WITHIN           0.5581       78.
  TRIALS          0.1734        1.         0.318      0.5815
  G BY T          0.9932        3.         1.820      0.1495
  ERROR (T)       0.5456       74.

 G MEAN              1           2            3           4
                  6.3647      6.2825       6.6000      5.1974

 T MEAN              1           2
                  6.0923      6.1590

 G BY T              1           2
     1            6.1176      6.6118
     2            6.4350      6.1300
     3            6.5864      6.6136
     4            5.1368      5.2579



 GROUP 1     25 SUBJECTS.                 ANGLO MALE    HI SHIFT
 GROUP 2     26 SUBJECTS.                 ANGLO MALE    HI....NO SHIFT
 GROUP 3     25 SUBJECTS.                 ANGLO MALE    LO....NO SHIFT
 GROUP 4     25 SUBJECTS.                 ANGLO MALE    LO SHIFT
```

```
[illegible] ANXIETY (SA)

SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL          231.0459      201.

BETWEEN        376.5672      100.

 GROUPS       3991.8900        3.       15.078     0.0000

 ERROR (G)     264.7531       97.

WITHIN          86.9653      101.

 TRIALS       1459.6484        1.       79.007     0.0000

 G BY T       1843.9245        3.       99.806     0.0000

 ERROR (T)      18.4750       97.

G MEAN            1            2           3          4
               24.9400      26.9231      8.4600    26.7400

T MEAN            1            2
               24.5050      19.1287

G BY T            1            2
    1          20.2000      29.6800
    2          30.1154      23.7308
    3          10.6400       6.2800
    4          36.8400      16.6400


[illegible] LINKED INTERESTS, ATTITUDES (S)

SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            6.0621      201.

BETWEEN          8.2998      100.

 GROUPS          6.8997        3.        0.827     0.5151

 ERROR (G)       8.3431       97.

WITHIN           3.8465      101.

 TRIALS         10.9355        1.        2.840     0.0913

 G BY T          1.3416        3.        0.348     0.7931

 ERROR (T)       3.8509       97.
```

```
G MEAN          1           2           3           4
            10.0000     10.5192     10.6400     10.8800

T MEAN          1           2
            10.7426     10.2772

G BY T          1           2

   1        10.0400      9.9600

   2        10.9231     10.1154

   3        10.8000     10.4800

   4        11.2000     10.5600

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           6.9920       201.

BETWEEN         8.9239       100.

 GROUPS        14.2631         3.       1.628      0.1864

 ERROR (G)      8.7587        97.

WITHIN          5.0792       101.

 TRIALS         3.3465         1.       0.770      0.6137

 G BY T        29.3522         3.       6.753      0.0006

 ERROR (T)      4.3464        97.

G MEAN          1           2           3           4
             4.8400      4.3077      3.7200      4.8400

T MEAN          1           2
             4.5545      4.2970

G BY T          1           2

   1         3.8800      5.8000

   2         4.6154      4.0000

   3         4.0400      3.4000

   4         5.6800      4.0000
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
SOURCE        MEAN SQUARE      D.F.      F-RATIO         P

TOTAL            10.2990       201.

BETWEEN          14.2810       100.

 GROUPS          83.1436         3.        6.842       0.0005

 ERROR (G)       12.1512        97.

WITHIN            6.3564       101.

 TRIALS          91.5645         1.       18.927       0.0001

 G BY T          27.0559         3.        5.593       0.0018

 ERROR (T)        4.8378        97.

G MEAN              1            2           3             4
                 12.4400      13.6154     10.6600       13.0600

T MEAN              1            2
                 13.1287      11.7822

G BY T              1            2

    1            12.5200      12.3600

    2            13.7308      13.5000

    3            11.5600       9.7600

    4            14.6800      11.4400
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
SOURCE        MEAN SQUARE      D.F.      F-RATIO         P

TOTAL            15.0949       201.

BETWEEN          22.4658       100.
 GROUPS          12.8939         3.        0.566       0.6426

 ERROR (G)       22.7619        97.

WITHIN            7.7970       101.

 TRIALS          44.6782         1.        5.934       0.0158

 G BY T           4.1463         3.        0.551       0.6532

 ERROR (T)        7.5297        97.

G MEAN              1            2           3             4
                 12.4000      13.3269     12.7800       12.1800
```

```
T MEAN            1          2
              13.1485    12.2079

G BY T            1          2

   1          12.8000    12.0000

   2          13.5000    13.1538

   3          13.2400    12.3200

   4          13.0400    11.3200

GROUP 1     15 SUBJECTS.

GROUP 2     15 SUBJECTS.

GROUP 3     18 SUBJECTS.

GROUP 4     13 SUBJECTS.


CTMM NONVERBAL (NV)

SOURCE      MEAN SQUARE       D.F.        F-RATIO          P

TOTAL          203.5668       121.

BETWEEN        358.7763        60.

 GROUPS        216.7031         3.         0.592        0.6270

 ERROR (G)     366.2538        57.

WITHIN          50.9016        61.

 TRIALS        130.1250         1.         2.526        0.1136

 G BY T         12.8906         3.         0.250        0.8617

 ERROR (T)      51.5123        57.

G MEAN            1          2            3            4
              113.1333   107.4000     111.4167     113.1923


T MEAN            1          2
              112.2623   110.1967

G BY T            1          2
   1
              114.8000   111.4667
   2
              108.1333   106.6667
   3
              111.7778   111.0556
   4
              114.7692   111.6154
```

CTMM VERBAL (V)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

TOTAL          217.1135      121.

BETWEEN        400.4956       60.

 GROUPS         76.9844        3.        0.184      0.9064

 ERROR (G)     417.5225       57.

WITHIN          36.7377       61.

 TRIALS         92.1094        1.        2.533      0.1132

 G BY T         25.2500        3.        0.694      0.5626

 ERROR (T)      36.3709       57.

G MEAN           1            2             3            4
             109.8333     108.1333     111.7500     109.1538


T MEAN           1            2
             110.7049     108.9672


G BY T           1            2

    1        111.4667     108.2000

    2        107.6667     108.6000

    3        112.8889     110.6111

    4        110.3077     108.0000


GROUP 1     23 SUBJECTS.              ANGLO MALE     HI SHIFT
GROUP 2     23 SUBJECTS.              ANGLO MALE     HI....NO SHIFT
GROUP 3     22 SUBJECTS.              ANGLO MALE     LO....NO SHIFT
GROUP 4     23 SUBJECTS.              ANGLO MALE     LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

TOTAL            9.3642      181.

BETWEEN         15.5658       90.

 GROUPS         27.6848        3.        1.828      0.1466

 ERROR (G)      15.1479       87.
```

```
WITHIN          3.2308         91.

 TRIALS          48.5493         1.        17.721       0.0002

 G BY T           2.3691         3.         0.865       0.5349

 ERROR (T)        2.7396        87.

G MEAN          1              2              3              4
            13.6087        12.6087        13.5227        11.9783

T MEAN          1              2
            13.4396        12.4066

G BY T          1              2

   1        13.9565        13.2609

   2        13.4348        11.7826

   3        13.8636        13.1818

   4        12.5217        11.4348

GROUP 1     24 SUBJECTS.

GROUP 2     25 SUBJECTS.

GROUP 3     23 SUBJECTS.

GROUP 4     24 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO         P

TOTAL            48.6793       191.

BETWEEN          74.3815        95.

 GROUPS         143.3939         3.         1.988       0.1198

 ERROR (G)       72.1311        92.

WITHIN           23.2448        96.

 TRIALS           0.6299         1.         0.027       0.8650

 G BY T          19.3519         3.         0.819       0.5108

 ERROR (T)       23.6175        92.

G MEAN          1              2              3              4
            26.4375        23.3400        22.8696        22.8125
```

```
T MEAN              1          2
               23.9271    23.8125

G BY T              1          2
   1           27.2917    25.5833
   2           22.8000    23.8800
   3           22.5217    23.2174
   4           23.0833    22.5417

GROUP 1     25 SUBJECTS.

GROUP 2     26 SUBJECTS.

GROUP 3     25 SUBJECTS.

GROUP 4     25 SUBJECTS.


FEELINGS OF INFERIORITY (FI)

SOURCE        MEAN SQUARE       D.F.      F-RATIO          P

TOTAL              1.8465       201.

BETWEEN            2.2665       100.

 GROUPS            1.9081         3.        0.838      0.5209

 ERROR (G)         2.2776        97.

WITHIN             1.4307       101.

 TRIALS           10.9356         1.        8.049      0.0057

 G BY T            0.5922         3.        0.436      0.7317

 ERROR (T)         1.3586        97.

G MEAN              1          2          3          4
                1.6000     1.8462     1.3800     1.6800

T MEAN              1          2
                1.3960     1.8614

G BY T              1          2
   1            1.2400     1.9600
   2            1.7308     1.9615
   3            1.2000     1.5600
   4            1.4000     1.9600
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

    SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL             2.0528      201.

    BETWEEN           2.4912      100.

     GROUPS           1.0455        3.       0.412      0.7482

     ERROR (G)        2.5359       97.

    WITHIN            1.6188      101.

     TRIALS           3.0941        1.       1.908      0.1668

     G BY T           1.0397        3.       0.641      0.5941

     ERROR (T)        1.6215       97.

    G MEAN           1            2           3           4
                 1.6200       1.8269      1.6200      1.4800

    T MEAN           1            2
                 1.5149       1.7624

    G BY T           1            2

        1        1.5200       1.7200

        2        1.8846       1.7692

        3        1.4400       1.8000

        4        1.2000       1.7600
```

```
NEUROTIC SYMPTOMS, SOCIAL (NS)

    SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL             2.3659      201.

    BETWEEN           2.3754      100.

     GROUPS           1.6859        3.       0.703      0.5555

     ERROR (G)        2.3968       97.

    WITHIN            2.3564      101.

     TRIALS          14.4356        1.       6.306      0.0131

     G BY T           0.5089        3.       0.222      0.8811

     ERROR (T)        2.2890       97.

    G MEAN           1            2           3           4
                 1.6600       2.0577      1.9400      1.7400
```

```
T MEAN          1            2
             1.5842       2.1188


G BY T          1            2

    1        1.4800       1.8400

    2        1.6923       2.4231

    3        1.6000       2.2800

    4        1.5600       1.9200
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            2.9408      201.

BETWEEN          3.6159      100.

 GROUPS          4.2688        3.       1.187      0.3184

 ERROR (G)       3.5957       97.

WITHIN           2.2723      101.

 TRIALS          8.3218        1.       3.673      0.0551

 G BY T          0.4768        3.       0.210      0.8891

 ERROR (T)       2.2654       97.

G MEAN          1            2            3            4
             1.5200       2.1154       1.8000       1.5000

T MEAN          1            2
             1.5347       1.9406

G BY T          1            2

    1        1.3600       1.6800

    2        2.0000       2.2308

    3        1.6000       2.0000

    4        1.1600       1.8400
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            1.8165      201.

BETWEEN          2.2261      100.
```

```
  GROUPS          3.2423      3.         1.477       0.2242

  ERROR (G)       2.1947      97.

 WITHIN           1.4109      101.

  TRIALS          1.7871       1.        1.253       0.2648

  G BY T          0.8035       3.        0.564       0.6446

  ERROR (T)       1.4258      97.

 G MEAN            1           2          3           4
                1.4400      2.0577     1.7600      1.7600

 T MEAN            1           2
                1.6634      1.8515

 G BY T            1           2
      1         1.5200      1.3600
      2         1.8846      2.2308
      3         1.5600      1.9600
      4         1.6800      1.8400


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
 SOURCE      MEAN SQUARE      D.F.     F-RATIO         P

 TOTAL            1.3831      201.

 BETWEEN          2.2050      100.

  GROUPS          2.0224       3.        0.915       0.5611

  ERROR (G)       2.2107      97.

 WITHIN           0.5693      101.

  TRIALS          0.4010       1.        0.694       0.5883

  G BY T          0.3640       3.        0.630       0.6009

  ERROR (T)       0.5774      97.

 G MEAN            1           2          3           4
                1.2200      1.3654     1.6800      1.5400

 T MEAN            1           2
                1.4059      1.4950

 G BY T            1           2
      1         1.1200      1.3200
```

```
   2          1.3077      1.4231

   3          1.7600      1.6000

   4          1.4400      1.6400


SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL             0.3061      201.

BETWEEN           0.4152      100.

 GROUPS           0.1439        3.       0.340       0.7993

 ERROR (G)        0.4236       97.

WITHIN            0.1980      101.

 TRIALS           0.3168        1.       1.624       0.2029

 G BY T           0.2521        3.       1.292       0.2808

 ERROR (T)        0.1951       97.

G MEAN            1             2          3           4
              1.2800      1.2115      1.1600      1.2600

T MEAN            1             2
              1.1881      1.2673

G BY T            1             2

   1          1.2000      1.3600

   2          1.2692      1.1538

   3          1.1200      1.2000

   4          1.1600      1.3600


DIFFUSE HYPERACTIVITY (DH)
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL             0.7091      201.

BETWEEN           0.8402      100.

 GROUPS           2.4640        3.       3.119       0.0290

 ERROR (G)        0.7900       97.

WITHIN            0.5792      101.

 TRIALS           0.1238        1.       0.209       0.6534
```

```
   G BY T            0.3111          3.          0.525       0.6702

   ERROR (T)         0.5922         97.

  G MEAN               1              2            3            4
                    1.1800         1.6154       1.5600       1.2400

  T MEAN               1              2
                    1.3762         1.4257

  G BY T               1              2

       1            1.1200         1.2400

       2            1.6538         1.5769

       3            1.6000         1.5200

       4            1.1200         1.3600


  GROUP 1     23 SUBJECTS.                  ANGLO MALE     HI SHIFT

  GROUP 2     24 SUBJECTS.                  ANGLO MALE     HI....NO SHIFT

  GROUP 3     25 SUBJECTS.                  ANGLO MALE     LO....NO SHIFT

  GROUP 4     24 SUBJECTS.                  ANGLO MALE     LO SHIFT

PEER ACCEPTANCE

  SOURCE       MEAN SQUARE        D.F.       F-RATIO         P

  TOTAL             0.0320        191.

  BETWEEN           0.0461         95.

   GROUPS           0.0061          3.         0.129       0.9416

   ERROR (G)        0.0474         92.

  WITHIN            0.0181         96.

   TRIALS           0.0349          1.         1.910       0.1668

   G BY T           0.0074          3.         0.405       0.7532

   ERROR (T)        0.0183         92.

  G MEAN               1              2            3            4
                    1.1937         1.2215       1.2094       1.2058

  T MEAN               1              2
                    1.1943         1.2212
```

```
G BY T          1          2

   1       1.1983     1.1891

   2       1.2042     1.2387

   3       1.1940     1.2248

   4       1.1808     1.2308
```

PEER REJECTION

```
SOURCE     MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           0.0342      191.

BETWEEN         0.0505       95.

 GROUPS         0.0486        3.        0.961      0.5838

 ERROR (G)      0.0506       92.

WITHIN          0.0181       96.

 TRIALS         0.0117        1.        0.639      0.5681

 G BY T         0.0114        3.        0.619      0.6082

 ERROR (T)      0.0183       92.

G MEAN          1          2          3          4
           1.1550     1.2248     1.1596     1.1804

T MEAN          1          2
           1.1722     1.1878

G BY T          1          2

   1       1.1635     1.1465

   2       1.2146     1.2350

   3       1.1584     1.1608

   4       1.1525     1.2083
```

```
    GROUP 1     16 SUBJECTS.

    GROUP 2     16 SUBJECTS.

    GROUP 3     20 SUBJECTS.

    GROUP 4     12 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)
    SOURCE       MEAN SQUARE        D.F.      F-RATIO          P

    TOTAL            11.4079        127.

    BETWEEN          16.7985         63.

     GROUPS          23.7474          3.        1.444      0.2380

     ERROR (G)       16.4510         60.

    WITHIN            6.1016         64.

     TRIALS          27.1953          1.        4.676      0.0325

     G BY T           4.7807          3.        0.822      0.5104

     ERROR (T)        5.8160         60.

    G MEAN            1              2             3            4
                     9.0938         9.1563        8.0000      10.1250

    T MEAN            1              2
                     9.4219         8.5000

    G BY T            1              2

        1            9.1250         9.0625

        2            9.9375         8.3750

        3            8.3000         7.7000

        4           11.0000         9.2500
```

TABLE 24.

T X S ANALYSES OF VARIANCE FOR ANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_3 AND T_4

GROUP 1	20 SUBJECTS.	ANGLO MALE	HI SHIFT
GROUP 2	19 SUBJECTS.	ANGLO MALE	HI....NO SHIFT
GROUP 3	22 SUBJECTS.	ANGLO MALE	LO....NO SHIFT
GROUP 4	17 SUBJECTS.	ANGLO MALE	LO SHIFT

MAT NONVERBAL (NV)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.6345	155.		
BETWEEN	0.9479	77.		
GROUPS	0.7009	3.	0.732	0.5394
ERROR (G)	0.9579	74.		
WITHIN	0.3251	78.		
TRIALS	14.8926	1.	109.527	0.0000
G BY T	0.1349	3.	0.992	0.5974
ERROR (T)	0.1360	74.		

G MEAN	1	2	3	4
	5.5600	5.5316	5.7091	5.8294

T MEAN	1	2
	5.3449	5.9628

G BY T	1	2
1	5.1650	5.9550
2	5.2421	5.8211
3	5.4318	5.9864
4	5.5588	6.1000

MAT VERBAL (V)

```
SOURCE        MEAN SQUARE       D.F.       F-RATIO        P

TOTAL              4.1573       155.

BETWEEN            7.5017        77.

 GROUPS            4.1456         3.         0.543     0.6587

 ERROR (G)         7.6377        74.

WITHIN             0.8559        78.

 TRIALS           12.9807         1.        18.354     0.0002

 G BY T            0.4804         3.         0.679     0.5710

 ERROR (T)         0.7073        74.


G MEAN               1             2             3            4
                  6.1450        6.2211        6.5977      6.8618


T MEAN               1             2
                  6.1590        6.7359


G BY T               1             2

    1             5.7600        6.5300

    2             5.8789        6.5632

    3             6.3136        6.8818

    4             6.7412        6.9824
```

```
GROUP 1    26 SUBJECTS.                  ANGLO MALE    HI SHIFT

GROUP 2    25 SUBJECTS.                  ANGLO MALE    HI....NO SHIFT

GROUP 3    25 SUBJECTS.                  ANGLO MALE    LO....NO SHIFT

GROUP 4    25 SUBJECTS.                  ANGLO MALE    LO SHIFT


SCHOOL ANXIETY (SA)

SOURCE       MEAN SQUARE      D.F.       F-RATIO        P

TOTAL           223.7413      201.

BETWEEN         369.8451      100.

 GROUPS        4225.4092        3.        16.861      0.0000

 ERROR (G)      250.6008       97.

WITHIN           79.0842      101.

 TRIALS          35.7676        1.         1.464      0.2271

 G BY T        1860.5911        3.        76.152      0.0000

 ERROR (T)       24.4326       97.


G MEAN             1            2            3            4
                24.8654      21.8200       5.9400      25.3600


T MEAN             1            2
                19.1287      19.9703


G BY T             1            2

   1            17.0000      32.7308

   2            21.4800      22.1600

   3             5.8400       6.0400

   4            32.2800      18.4400
```

SEX-LINKED INTERESTS, ATTITUDES (S)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO         P

TOTAL             4.4977      201.

BETWEEN           5.2954      100.

 GROUPS          12.1773        3.        2.396       0.0717

 ERROR (G)        5.0826       97.

WITHIN            3.7079      101.

 TRIALS           1.1138        1.        0.292       0.5971

 G BY T           0.9912        3.        0.260       0.8554

 ERROR (T)        3.8187       97.

G MEAN              1            2           3            4
              10.5769      10.4200      10.7600       9.6400

T MEAN              1            2
              10.2772      10.4257

G BY T              1            2
   1          10.6538      10.5000
   2          10.1600      10.6800
   3          10.6800      10.8400
   4           9.6000       9.6800
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO         P

TOTAL             8.0712      201.

BETWEEN           8.9532      100.

 GROUPS          35.0256        3.        4.299       0.0071

 ERROR (G)        8.1468       97.

WITHIN            7.1980      101.

 TRIALS          19.0297        1.        3.223       0.0721

 G BY T          45.0691        3.        7.633       0.0003

 ERROR (T)        5.9048       97.

G MEAN              1            2           3            4
               5.0000       4.4600      3.5000       5.4400
```

```
T MEAN          1            2
             4.2970       4.9109

G BY T          1            2
    1        3.5385       6.4615
    2        4.1600       4.7600
    3        3.2400       3.7600
    4        6.2800       4.6000
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
SOURCE      MEAN SQUARE       D.F.       F-RATIO          P
TOTAL           12.8299       201.
BETWEEN         20.6532       100.
 GROUPS         58.4563         3.        3.000       0.0336
 ERROR (G)      19.4840        97.
WITHIN           5.0842       101.
 TRIALS          2.6187         1.        0.500       0.5117
 G BY T          0.8845         3.        0.169       0.9168
 ERROR (T)       5.2395        97.

G MEAN          1            2            3            4
             12.3846      12.8000      10.3400      12.0400

T MEAN          1            2
             11.7822      12.0099

G BY T          1            2
    1       12.2692      12.5000
    2       12.8000      12.8000
    3       10.0400      10.6400
    4       12.0000      12.0800
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
SOURCE      MEAN SQUARE       D.F.       F-RATIO          P
TOTAL           16.4836       201.
BETWEEN         26.5671       100.
```

```
  GROUPS          24.0344        3.        0.902      0.5546

  ERROR (G)       26.6455       97.

 WITHIN            6.5000      101.

  TRIALS          18.4207        1.        3.009      0.0822

  G BY T          14.7361        3.        2.407      0.0707

  ERROR (T)        6.1224       97.

 G MEAN              1            2            3            4
                11.1538      12.7400      12.1600      11.6000

 T MEAN              1            2
                12.2079      11.6040

 G BY T              1            2

      1         11.9231      10.3846

      2         13.1600      12.3200

      3         12.6400      11.6800

      4         11.1200      12.0800
```

```
    GROUP 1     13 SUBJECTS.

    GROUP 2     19 SUBJECTS.

    GROUP 3     17 SUBJECTS.

    GROUP 4     12 SUBJECTS.


CTMM NONVERBAL (NV)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL          200.9068      121.

    BETWEEN        332.7786       60.

     GROUPS        432.3802        3.        1.320      0.2760

     ERROR (G)     327.5365       57.

    WITHIN          71.1967       61.

     TRIALS        992.6563        1.       18.419      0.0002

     G BY T         92.8385        3.        1.723      0.1712

     ERROR (T)      53.8917       57.

    G MEAN            1            2            3            4
                  107.8462     112.3947     114.5294     117.6250

    T MEAN            1            2
                  110.1967     115.9016


    G BY T            1            2

         1        104.6154     111.0769

         2        110.2632     114.5263

         3        113.1176     115.9412

         4        112.0000     123.2500
```

CTMM VERBAL (V)

```
SOURCE       MEAN SQUARE     D.F.      F-RATIO        P

TOTAL           238.7590     121.

BETWEEN         433.5307      60.

 GROUPS          64.5156       3.        0.142      0.9334

 ERROR (G)      452.9526      57.

WITHIN           47.1803      61.

 TRIALS         259.7031       1.        6.566      0.0125

 G BY T         121.3125       3.        3.067      0.0344

 ERROR (T)       39.5502      57.


G MEAN            1            2            3           4
               109.5385    112.1842    109.1471    110.4167


T MEAN            1            2
               108.9672    111.8852


G BY T            1            2

    1          107.2308    111.8462

    2          109.9474    114.4211

    3          110.4118    107.8824

    4          107.2500    113.5833
```

```
GROUP 1     26 SUBJECTS.              ANGLO MALE   HI SHIFT

GROUP 2     23 SUBJECTS.              ANGLO MALE   HI....NO SHIFT

GROUP 3     21 SUBJECTS.              ANGLO MALE   LO....NO SHIFT

GROUP 4     22 SUBJECTS.              ANGLO MALE   LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO         P

TOTAL             9.4306      183.

BETWEEN          16.9319       91.

 GROUPS          15.8652        3.        0.935      0.5708

 ERROR (G)       16.9683       88.

WITHIN            2.0109       92.

 TRIALS           4.8914        1.        2.504      0.1132

 G BY T           2.7412        3.        1.403      0.2461

 ERROR (T)        1.9532       88.

G MEAN             1            2            3            4
             11.8654      12.4348      13.2619      12.7273

T MEAN             1            2
             12.3696      12.6957

G BY T             1            2

      1      12.0385      11.6923

      2      12.1304      12.7391

      3      12.9524      13.5714

      4      12.4545      13.0000
```

```
GROUP 1     25 SUBJECTS.

GROUP 2     25 SUBJECTS.

GROUP 3     22 SUBJECTS.

GROUP 4     24 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE        MEAN SQUARE      D.F.      F-RATIO        P

TOTAL             47.6791      191.

BETWEEN           81.7495       95.

 GROUPS           34.4395        3.       0.413      0.7473

 ERROR (G)        83.2922       92.

WITHIN            13.9635       96.

 TRIALS            1.1719        1.       0.083      0.7716

 G BY T           11.1963        3.       0.789      0.5060

 ERROR (T)        14.1928       92.

G MEAN              1            2          3            4
                 22.7400      24.2400    24.7273      23.9583

T MEAN              1            2
                 23.8125      23.9688

G BY T              1            2

    1            22.0000      23.4800

    2            24.6000      23.8800

    3            24.8636      24.5909

    4            23.9167      24.0000
```

```
  GROUP 1    26 SUBJECTS.

  GROUP 2    25 SUBJECTS.

  GROUP 3    25 SUBJECTS.

  GROUP 4    25 SUBJECTS.

FEELINGS OF INFERIORITY (FI)

  SOURCE      MEAN SQUARE     D.F.      F-RATIO       P

  TOTAL            3.0910     201.

  BETWEEN          4.7529     100.

   GROUPS          4.0955       3.       0.858      0.5317

   ERROR (G)       4.7732      97.

  WITHIN           1.4455     101.

   TRIALS          1.2673       1.       0.861      0.6417

   G BY T          0.6635       3.       0.451      0.7213

   ERROR (T)       1.4716      97.

  G MEAN             1           2          3           4
                  2.0192      2.0600     1.5200      2.1600

  T MEAN             1           2
                  1.8614      2.0198

  G BY T             1           2
      1           1.8462      2.1923
      2           1.8800      2.2400
      3           1.5200      1.5200
      4           2.2000      2.1200
```

NEUROTIC SYMPTOMS, ACADEMIC (NA)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            2.5782      201.

BETWEEN          4.1072      100.

 GROUPS          4.6112        3.        1.127      0.3422

 ERROR (G)       4.0916       97.

WITHIN           1.0644      101.

 TRIALS          0.5990        1.        0.547      0.5319

 G BY T          0.2244        3.        0.205      0.8928

 ERROR (T)       1.0951       97.

G MEAN           1            2          3            4
                 1.8462       1.4200     1.8400       2.1600

T MEAN           1            2
                 1.7624       1.8713

G BY T           1            2

   1             1.7308       1.9615

   2             1.3600       1.4800

   3             1.7600       1.9200

   4             2.2000       2.1200
```

NEUROTIC SYMPTOMS, SOCIAL (NS)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            3.3086      201.

BETWEEN          4.1403      100.

 GROUPS          3.9422        3.        0.951      0.5790

 ERROR (G)       4.1464       97.

WITHIN           2.4851      101.

 TRIALS          0.4950        1.        0.195      0.6640

 G BY T          1.4647        3.        0.577      0.6355

 ERROR (T)       2.5372       97.

G MEAN           1            2          3            4
                 2.4615       1.8200     1.9600       2.0200
```

```
T MEAN             1          2
               2.1188     2.0198

G BY T             1          2

  1            2.6923     2.2308

  2            1.6400     2.0000

  3            2.0400     1.8800

  4            2.0800     1.9600
```

REGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO       P

TOTAL             3.1422    201.

BETWEEN           4.9058    100.

 GROUPS           3.2488      3.        0.655     0.5852

 ERROR (G)        4.9571     97.

WITHIN            1.3960    101.

 TRIALS           2.8515      1.        2.011     0.1557

 G BY T           0.2072      3.        0.146     0.9313

 ERROR (T)        1.4178     97.

G MEAN             1          2           3          4
               2.1346     1.7800      1.5200     1.8400

T MEAN             1          2
               1.9406     1.7030

G BY T             1          2

  1            2.1923     2.0769

  2            1.9200     1.6400

  3            1.7200     1.3200

  4            1.9200     1.7600
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO       P

TOTAL             2.5783    201.

BETWEEN           3.5474    100.
```

```
 GROUPS         3.6616     3.        1.033      0.3823
 ERROR (G)      3.5439    97.
WITHIN          1.6188   101.
 TRIALS         0.0050     1.        0.003      0.9553
 G BY T         1.0919     3.        0.661      0.5816
 ERROR (T)      1.6517    97.

G MEAN            1          2          3          4
               2.1346     1.6800     1.5600     2.0000

T MEAN            1          2
               1.8515     1.8416

G BY T            1          2
    1          2.0385     2.2308
    2          1.5600     1.8000
    3          1.7600     1.3600
    4          2.0400     1.9600
```

EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)

```
SOURCE       MEAN SQUARE    D.F.    F-RATIO        P
TOTAL           1.4254    201.
BETWEEN         2.3700    100.
 GROUPS         3.3108      3.       1.414      0.2421
 ERROR (G)      2.3409     97.
WITHIN          0.4901    101.
 TRIALS         0.0049      1.       0.010      0.9174
 G BY T         0.4809      3.       0.971      0.5887
 ERROR (T)      0.4954     97.

G MEAN            1          2          3          4
               1.6154     1.1600     1.7600     1.4600

T MEAN            1          2
               1.4950     1.5050

G BY T            1          2
    1          1.6923     1.5385
```

```
  2          1.2400      1.0800

  3          1.6800      1.8400

  4          1.3600      1.5600
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
 SOURCE      MEAN SQUARE      D.F.     F-RATIO        P

 TOTAL            0.3486      201.

 BETWEEN          0.4756      100.

  GROUPS          0.5512        3.       1.165      0.3272

  ERROR (G)       0.4733       97.

 WITHIN           0.2228      101.

  TRIALS          0.2426        1.       1.075      0.3028

  G BY T          0.1248        3.       0.553      0.6515

  ERROR (T)       0.2256       97.

 G MEAN          1            2           3           4
              1.2308      1.1800      1.1400      1.3800

 T MEAN          1            2
              1.2673      1.1980

 G BY T          1            2

  1           1.2692      1.1923

  2           1.2000      1.1600

  3           1.2400      1.0400

  4           1.3600      1.4000
```

DIFFUSE HYPERACTIVITY (DH)

```
 SOURCE      MEAN SQUARE      D.F.     F-RATIO        P
 TOTAL            0.6550      201.
 BETWEEN          0.9766      100.

  GROUPS          0.9388        3.       0.960      0.5835

  ERROR (G)       0.9778       97.

 WITHIN           0.3366      101.

  TRIALS          0.0198        1.       0.057      0.8076
 G BY T            0.0065       3.        0.018      0.9961

 ERROR (T)         0.3501      97.

G MEAN              1           2           3           4
                 1.5577      1.2400      1.4600      1.4800

T MEAN              1           2
                 1.4257      1.4455

G BY T              1           2

    1            1.5385      1.5769

    2            1.2400      1.2400

    3            1.4400      1.4800

    4            1.4800      1.4800


GROUP 1     14 SUBJECTS.
GROUP 2     20 SUBJECTS.
GROUP 3     19 SUBJECTS.
GROUP 4     13 SUBJECTS.
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           0.0913      131.

BETWEEN         0.1193       65.

 GROUPS         0.0860        3.        0.711      0.5521

 ERROR (G)      0.1209       62.

WITHIN          0.0638       66.

 TRIALS         0.8528        1.       16.048      0.0004

 G BY T         0.0221        3.        0.415      0.7462

 ERROR (T)      0.0531       62.


G MEAN              1           2           3           4
                 1.2746      1.3075      1.3092      1.1935


T MEAN              1           2
                 1.1982      1.3589
```

```
G BY T          1          2

     1       1.1807     1.3686

     2       1.2025     1.4125

     3       1.2411     1.3774

     4       1.1477     1.2392

PEER REJECTION

 SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

 TOTAL            0.1744      131.

 BETWEEN          0.2449       65.

  GROUPS          0.6418        3.       2.844      0.0440

  ERROR (G)       0.2257       62.

 WITHIN           0.1049       66.

  TRIALS          0.6164        1.       6.822      0.0109

  G BY T          0.2361        3.       2.613      0.0581

  ERROR (T)       0.0903       62.

 G MEAN           1          2          3          4
               1.4954     1.1715     1.2237     1.2335

 T MEAN           1          2
               1.1991     1.3358

 G BY T           1          2

     1         1.2886     1.7021

     2         1.1480     1.1950

     3         1.1721     1.2753

     4         1.2208     1.2462
```

```
GROUP 1     19 SUBJECTS.

GROUP 2     15 SUBJECTS.

GROUP 3     16 SUBJECTS.

GROUP 4     14 SUBJECTS.

PRONENESS TOWARD NEUROTICISM (PTN)

SOURCE       MEAN SQUARE      D.F.     F-RATIO        P

TOTAL           10.7222       127.

BETWEEN         16.9162        63.

 GROUPS         84.2091         3.       6.214      0.0013

 ERROR (G)      13.5515        60.

WITHIN           4.6250        64.

 TRIALS          0.2813         1.       0.062      0.7995

 G BY T          7.9920         3.       1.765      0.1623

 ERROR (T)       4.5290        60.

G MEAN            1           2           3           4
               9.3158      8.3333      6.3750     10.2143

T MEAN            1           2
               8.5000      8.5938

G BY T            1           2

   1           8.6316     10.0000

   2           8.5333      8.1333

   3           6.4375      6.3125

   4          10.6429      9.7857
```

TABLE 25.

T X S ANALYSES OF VARIANCE FOR ANGLO FEMALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_1 AND T_2

GROUP 1	15 SUBJECTS.	ANGLO FEMALE	HI SHIFT
GROUP 2	20 SUBJECTS.	ANGLO FEMALE	HI...NO SHIFT
GROUP 3	20 SUBJECTS.	ANGLO FEMALE	LO...NO SHIFT
GROUP 4	17 SUBJECTS.	ANGLO FEMALE	LO SHIFT

MAT NONVERBAL (NV)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.8839	143.		
BETWEEN	0.8610	71.		
GROUPS	1.3845	3.	1.652	0.1842
ERROR (G)	0.8379	68.		
WITHIN	0.9066	72.		
TRIALS	58.1406	1.	574.230	0.0000
G BY T	0.0830	3.	0.820	0.5099
ERROR (T)	0.1012	68.		

G MEAN	1	2	3	4
	4.5867	4.6725	4.8475	4.3794

T MEAN	1	2
	3.9986	5.2694

G BY T	1	2
1	3.8733	5.3000
2	4.0500	5.2950
3	4.2500	5.4450
4	3.7529	5.0059

MAT VERBAL (V)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL             3.3736      143.

BETWEEN           4.9034       71.

 GROUPS          14.0147        3.        3.113      0.0312

 ERROR (G)        4.5014       68.

WITHIN            1.8651       72.

 TRIALS          89.9336        1.      148.418      0.0000

 G BY T           1.0503        3.        1.733      0.1670

 ERROR (T)        0.6059       68.

G MEAN              1           2           3           4
                 4.9267      5.6650      6.1075      4.7912

T MEAN              1           2
                 4.6375      6.2181

G BY T              1           2

     1           4.2667      5.5867

     2           4.7450      6.5850

     3           5.1850      7.0300

     4           4.1941      5.3882
```

```
GROUP 1     17 SUBJECTS.
GROUP 2     15 SUBJECTS.
GROUP 3     19 SUBJECTS.
GROUP 4     14 SUBJECTS.
```

CTMM NONVERBAL (NV)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P
TOTAL          201.4492       129.
BETWEEN        325.9446        64.
 GROUPS        154.8073         3.        0.463       0.7131
 ERROR (G)     334.3612        61.
WITHIN          78.8692        65.
 TRIALS       2088.0156         1.       43.308       0.0000
 G BY T         32.5000         3.        0.674       0.5747
 ERROR (T)      48.2129        61.

G MEAN           1            2            3            4
             112.2647     112.1000     112.1316     107.5714

T MEAN           1            2
             107.1692     115.1846

G BY T           1            2

    1        108.0588     116.4706
    2        109.6000     114.6000
    3        107.7895     116.4737
    4        102.6429     112.5000
```

CTMM VERBAL (V)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           175.7821      129.

BETWEEN         311.4827       64.

 GROUPS         249.8125        3.        0.794      0.5045

 ERROR (G)      314.5156       61.

WITHIN           42.1692       65.

 TRIALS         858.1250        1.       29.616      0.0000

 G BY T          38.4688        3.        1.328      0.2728

 ERROR (T)       28.9749       61.

G MEAN             1            2            3            4
             110.7353     113.2667     113.5789     107.3929

T MEAN             1            2
             108.8615     114.0000

G BY T             1            2

    1        106.7059     114.7647

    2        111.8000     114.7333

    3        111.4211     115.7368

    4        104.8571     109.9286
```

```
GROUP 1    22 SUBJECTS.

GROUP 2    22 SUBJECTS.

GROUP 3    22 SUBJECTS.

GROUP 4    21 SUBJECTS.


GRADE POINT AVERAGE (GPA)

 SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

 TOTAL           10.7972      173.

 BETWEEN         18.8478       86.

  GROUPS         63.2701        3.        3.670      0.0153

  ERROR (G)      17.2421       83.

 WITHIN           2.8391       87.

  TRIALS         42.5059        1.       18.003      0.0002

  G BY T          2.8421        3.        1.204      0.3132

  ERROR (T)       2.3611       83.


 G MEAN            1            2            3            4
              13.6591      13.5909      15.1136      12.1429


 T MEAN            1            2
              13.1494      14.1379


 G BY T            1            2

     1        13.4091      13.9091

     2        12.7727      14.4091

     3        14.7727      15.4545

     4        11.5714      12.7143
```

```
GROUP 1     13 SUBJECTS.

GROUP 2     12 SUBJECTS.

GROUP 3     20 SUBJECTS.

GROUP 4     18 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

SOURCE        MEAN SQUARE      D.F.       F-RATIO          P

TOTAL             10.5817      125.

BETWEEN           13.7775       62.

 GROUPS          102.7073        3.        11.097       0.0000

 ERROR (G)         9.2557       59.

WITHIN             7.4365       63.

 TRIALS           62.8651        1.        10.907       0.0020

 G BY T           21.8587        3.         3.792       0.0147

 ERROR (T)         5.7637       59.


G MEAN              1            2            3            4
                 9.8846      11.9583       7.5000       9.5278


T MEAN              1            2
                10.1270       8.7143


G BY T              1            2

     1           9.8462       9.9231

     2          12.1667      11.7500

     3           8.0000       7.0000

     4          11.3333       7.7222
```

```
GROUP 1     21 SUBJECTS.

GROUP 2     22 SUBJECTS.

GROUP 3     23 SUBJECTS.

GROUP 4     22 SUBJECTS.


SCHOOL MOTIVATION (SM)

SOURCE      MEAN SQUARE       D.F.       F-RATIO          P

TOTAL           48.2026       175.

BETWEEN         82.3787        87.

 GROUPS         59.9736         3.         0.721     0.5453

 ERROR (G)      83.1789        84.

WITHIN          14.4148        88.

 TRIALS         35.4600         1.         2.620     0.1053

 G BY T         32.0049         3.         2.364     0.0756

 ERROR (T)      13.5360        84.


G MEAN             1            2           3            4
               25.4762      26.4318     28.2391      27.1591


T MEAN             1            2
               26.4091      27.3068


G BY T             1            2

    1          25.8095      25.1429

    2          26.5909      26.2727

    3          27.5217      28.9565

    4          25.6364      28.6818
```

```
   GROUP 1     22 SUBJECTS.

   GROUP 2     23 SUBJECTS.

   GROUP 3     23 SUBJECTS.

   GROUP 4     23 SUBJECTS.


FEELINGS OF INFERIORITY (FI)

   SOURCE      MEAN SQUARE       D.F.      F-RATIO        P

   TOTAL            0.6868       181.

   BETWEEN          0.8701        90.

    GROUPS          2.1895         3.        2.655      0.0524

    ERROR (G)       0.8246        87.

   WITHIN           0.5055        91.

    TRIALS          1.4066         1.        2.847      0.0912

    G BY T          0.5364         3.        1.086      0.3600

    ERROR (T)       0.4941        87.


   G MEAN            1            2            3            4
                1.5000       1.0217       1.0870       1.3261


   T MEAN            1            2
                1.1429       1.3187


   G BY T            1            2

     1          1.4091       1.5909

     2          1.0000       1.0435

     3          1.0870       1.0870

     4          1.0870       1.5652
```

NEUROTIC SYMPTOMS, ACADEMIC (NA)

```
SOURCE       MEAN SQUARE     D.F.      F-RATIO        P

TOTAL             1.1495     181.

BETWEEN           1.5563      90.

 GROUPS           7.4861       3.        5.538     0.0019

 ERROR (G)        1.3518      87.

WITHIN            0.7473      91.

 TRIALS           5.6264       1.        8.985     0.0038

 G BY T           2.6321       3.        4.203     0.0081

 ERROR (T)        0.6262      87.

G MEAN                 1           2            3            4
                  1.9773      1.1739       1.0870       1.2391

T MEAN                 1           2
                  1.1868      1.5385

G BY T                 1           2

   1              1.4545      2.5000

   2              1.2174      1.1304

   3              1.0000      1.1739

   4              1.0870      1.3913
```

NEUROTIC SYMPTOMS, SOCIAL (NS)

```
SOURCE       MEAN SQUARE     D.F.      F-RATIO        P

TOTAL             0.3815     181.

BETWEEN           0.0784      90.

 GROUPS           0.0845       3.        1.081     0.3619

 ERROR (G)        0.0782      87.

WITHIN            0.6813      91.

 TRIALS          54.9451       1.      702.830     0.0000

 G BY T           0.0845       3.        1.081     0.3619

 ERROR (T)        0.0782      87.

G MEAN                 1           2            3            4
                  0.6136      0.5217       0.5435       0.5217
```

```
    T MEAN          1            2
                 1.0989       0.0000

    G BY T          1            2
       1         1.2273      -0.0000
       2         1.0435      -0.0000
       3         1.0870      -0.0000
       4         1.0435      -0.0000


AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)
    SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

    TOTAL           1.4072      181.

    BETWEEN         1.6579       90.

     GROUPS         3.5110        3.       2.203       0.0922

     ERROR (G)      1.5940       87.

    WITHIN          1.1593       91.

     TRIALS         2.9066        1.       2.489       0.1143

     G BY T         0.3256        3.       0.279       0.8420

     ERROR (T)      1.1680       87.

    G MEAN          1            2            3            4
                 1.6818       1.0870       1.0870       1.2826

    T MEAN          1            2
                 1.1538       1.4066

    G BY T          1            2
       1         1.5455       1.8182
       2         1.0435       1.1304
       3         1.0000       1.1739
       4         1.0435       1.5217


ACTIVE WITHDRAWAL (AW)
    SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

    TOTAL           1.1317      181.

    BETWEEN         1.4816       90.
```

```
 GROUPS           0.9251      3.         0.616      0.6101

 ERROR (G)        1.5007     87.

WITHIN            0.7857     91.

 TRIALS           5.9835      1.         8.231      0.0053

 G BY T           0.7585      3.         1.043      0.3784

 ERROR (T)        0.7269     87.

G MEAN              1           2          3          4
                 1.5000      1.4348     1.1739     1.4130

T MEAN              1           2
                 1.1978      1.5604

G BY T              1           2

    1            1.3182      1.6818

    2            1.1739      1.6957

    3            1.1739      1.1739

    4            1.1304      1.6957


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
  SOURCE      MEAN SQUARE       D.F.       F-RATIO          P

  TOTAL             0.8642      181.

  BETWEEN           1.2769       90.

   GROUPS           2.0534        3.         1.643       0.1840

   ERROR (G)        1.2501       87.

  WITHIN            0.4560       91.

   TRIALS           0.0495        1.         0.108       0.7419

   G BY T           0.5916        3.         1.297       0.2798

   ERROR (T)        0.4560       87.

  G MEAN              1           2          3          4
                   1.6818      1.5217     1.2391     1.2609

  T MEAN              1           2
                   1.4066      1.4396

  G BY T              1           2

      1            1.5000      1.8636
```

```
     2          1.6087       1.4348

     3          1.2609       1.2174

     4          1.2609       1.2609
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL          0.5046        181.

  BETWEEN        0.6816         90.

   GROUPS        1.2878          3.        1.949      0.1262

   ERROR (G)     0.6607         87.

  WITHIN         0.3297         91.

   TRIALS        3.1648          1.       10.747      0.0019

   G BY T        0.4052          3.        1.376      0.2544

   ERROR (T)     0.2945         87.

  G MEAN          1              2            3            4
               1.4773         1.0652       1.2826       1.2391

  T MEAN          1              2
               1.1319         1.3956

  G BY T          1              2

      1        1.2273         1.7273

      2        1.0435         1.0870

      3        1.1739         1.3913

      4        1.0870         1.3913
```

DIFFUSE HYPERACTIVITY (DH)

```
  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL          0.7807        181.

  BETWEEN        0.4089         90.

   GROUPS        1.4930          3.        4.019      0.0101

   ERROR (G)     0.3715         87.

  WITHIN         1.1484         91.

   TRIALS       67.6978          1.      182.213      0.0000
  G BY T          1.4930         3.         4.019     0.0101

  ERROR (T)       0.3715        87.

G MEAN            1              2          3         4
                0.8864         0.5000     0.5435    0.5217

T MEAN            1              2
                1.2198         0.0000

G BY T            1              2

     1          1.7727        -0.0000

     2          1.0000        -0.0000

     3          1.0870        -0.0000

     4          1.0435        -0.0000
```

```
GROUP 1    22 SUBJECTS.            ANGLO FEMALE    HI SHIFT
GROUP 2    21 SUBJECTS.            ANGLO FEMALE   HI...NO SHIFT
GROUP 3    23 SUBJECTS.            ANGLO FEMALE   LO...NO SHIFT
GROUP 4    22 SUBJECTS.            ANGLO FEMALE    LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO      P
TOTAL            0.0297       175.
BETWEEN          0.0471        87.
 GROUPS          0.0429         3.       0.908     0.5569
 ERROR (G)       0.0473        84.
WITHIN           0.0124        88.
 TRIALS          0.0128         1.       1.010     0.3190
 G BY T          0.0050         3.       0.392     0.7621
 ERROR (T)       0.0127        84.

G MEAN             1            2          3          4
                 1.1650       1.2105     1.2220     1.2375

T MEAN             1            2
                 1.2174       1.2003

G BY T             1            2
     1           1.1800       1.1500
     2           1.2300       1.1910
     3           1.2265       1.2174
     4           1.2332       1.2418
```

PEER REJECTION

```
 SOURCE      MEAN SQUARE       D.F.      F-RATIO        P
 TOTAL             0.0322      175.
 BETWEEN           0.0519       87.
  GROUPS           0.0924        3.        1.832      0.1461
  ERROR (G)        0.0505       84.
 WITHIN            0.0128       88.
   TRIALS          0.0022        1.        0.175      0.6803
  G BY T           0.0243        3.        1.938      0.1283
  ERROR (T)        0.0125       84.

G MEAN            1            2            3            4
             1.2475       1.1583       1.1457       1.1718

T MEAN            1            2
             1.1842       1.1772

G BY T            1            2

    1        1.2336       1.2614

    2        1.1919       1.1248

    3        1.1578       1.1335

    4        1.1550       1.1886
```

```
GROUP 1     22 SUBJECTS.          ANGLO FEMALE    HI SHIFT

GROUP 2     23 SUBJECTS.          ANGLO FEMALE   HI...NO SHIFT

GROUP 3     23 SUBJECTS.          ANGLO FEMALE   LO...NO SHIFT

GROUP 4     23 SUBJECTS.          ANGLO FEMALE    LO SHIFT

TOTAL =     91 SUBJECTS.

DEGREES OF FREEDOM

   3 AND    87 FOR GROUPS.

   1 AND    87 FOR TREATMENTS.

   3 AND    87 FOR INTERACTION.
```

SCHOOL ANXIETY (SA)

```
GROUPS F RATIO =  15.485     P = .0000

MEANS.          30.6364    32.2609    11.2826    30.5000

TREATMENTS F RATIO =  45.375     P = .0000

MEANS.          28.8462    23.3956

INTERACTION F RATIO = 105.128     P = .0000

GROUP  1        24.0909    37.1818

GROUP  2        33.9130    30.6087

GROUP  3        13.0000     9.5652

GROUP  4        44.1739    16.8261
```

SEX-LINKED INTERESTS, ATTITUDES (S)

```
GROUPS F RATIO =    .490     P = .6941

MEANS.           5.5000     6.3696     5.6739     5.7609

TREATMENTS F RATIO =  31.777     P = .0000
```

```
MEANS.          5.0879      6.5714
INTERACTICN F RATIO =   1.185      P = .3200
GROUP  1        4.7727      6.2273
GROUP  2        5.2609      7.4783
GROUP  3        5.2609      6.0870
GROUP  4        5.0435      6.4783
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
GROUPS F RATIO =    2.518      P = .0622
MEANS.          3.5909      3.8261      2.6957      3.9130
TREATMENTS F RATIC =   6.621      P = .0114
MEANS.          3.2198      3.7912
INTERACTICN F RATIC =   4.593      P = .0052
GROUP  1        3.4545      3.7273
GROUP  2        2.9565      4.6957
GROUP  3        2.9565      2.4348
GROUP  4        3.5217      4.3043
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
GROUPS F RATIO =    5.164      P = .0028
MEANS.         13.0682     14.3478     11.8478     13.3913
TREATMENTS F RATIC =    .402      P = .5350
MEANS.         13.2637     13.0659
INTERACTICN F RATIC =  13.521      P = .0000
GROUP  1       11.7727     14.3636
GROUP  2       14.3043     14.3913
GROUP  3       12.0000     11.6957
GROUP  4       14.9130     11.8696
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
GROUPS F RATIO =     .574      P = .6380
MEANS.         14.7045     14.2826     15.1957     14.3261
```

```
TREATMENTS F RATIO =    1.474       P = .2258

MEANS.          14.7912    14.4615

INTERACTION F RATIO =    3.700       P = .0146

GROUP  1        14.1818    15.2273

GROUP  2        14.4783    14.0870

GROUP  3        15.3913    15.0000

GROUP  4        15.0870    13.5652
```

TABLE 26.

T X S ANALYSES OF VARIANCE FOR ANGLO FEMALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_2 AND T_3

```
GROUP 1     17 SUBJECTS.                    ANGLO FEMALE     HI SHIFT
GROUP 2     19 SUBJECTS.                    ANGLO FEMALE    HI...NO SHIFT
GROUP 3     16 SUBJECTS.                    ANGLO FEMALE    LO...NO SHIFT
GROUP 4     20 SUBJECTS.                    ANGLO FEMALE     LO SHIFT


MAT NONVERBAL (NV)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
    TOTAL           0.5599       143.
    BETWEEN         1.0171        71.
     GROUPS         1.1750         3.        1.163      0.3301
     ERROR (G)      1.0101        68.
    WITHIN          0.1091        72.
     TRIALS         0.0034         1.        0.030      0.8563
     G BY T         0.0481         3.        0.425      0.7397
     ERROR (T)      0.1133        68.

    G MEAN            1             2            3           4
                  5.3324        5.1053       5.5125      5.1600

    T MEAN            1             2
                  5.2694        5.2597

    G BY T            1             2
         1        5.3765        5.2882
         2        5.0684        5.1421
         3        5.5000        5.5250
         4        5.1850        5.1350
```

MAT VERBAL (V)

```
SOURCE        MEAN SQUARE     D.F.      F-RATIO        P

TOTAL              3.7478     143.

BETWEEN            6.9364      71.

 GROUPS            2.5208       3.        0.353      0.7895

 ERROR (G)         7.1312      68.

WITHIN             0.6035      72.

 TRIALS            0.7366       1.        1.188      0.2792

 G BY T            0.1836       3.        0.296      0.8298

 ERROR (T)         0.6201      68.

G MEAN                  1          2          3          4
                   6.3559     5.9316     6.4344     5.9425

T MEAN                  1          2
                   6.2181     6.0750

G BY T                  1          2

     1             6.4294     6.2824

     2             6.0263     5.8368

     3             6.5875     6.2812

     4             5.9250     5.9600
```

```
    GROUP 1    13 SUBJECTS.

    GROUP 2    20 SUBJECTS.

    GROUP 3    18 SUBJECTS.

    GROUP 4    14 SUBJECTS.

CTMM NONVERBAL (NV)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL          220.5562      129.

    BETWEEN        404.3633       64.

     GROUPS        656.5052        3.        1.675     0.1804

     ERROR (G)     391.9629       61.

    WITHIN          39.5769       65.

     TRIALS          7.4063        1.        0.181     0.6753

     G BY T         24.5000        3.        0.600     0.6215

     ERROR (T)      40.8458       61.

    G MEAN             1            2            3            4
                   114.0000     110.3750     119.4167     118.8214

    T MEAN             1            2
                   115.1846     115.6615

    G BY T             1            2

         1         113.6154     114.3846

         2         110.9000     109.8500

         3         119.4444     119.3889

         4         117.2857     120.3571
```

CTMM VERBAL (V)

```
     SOURCE      MEAN SQUARE       D.F.       F-RATIO         P

     TOTAL          203.9334       129.

     BETWEEN        372.5610        64.

      GROUPS        631.6823         3.         1.756       0.1638

      ERROR (G)     359.8174        61.

     WITHIN          37.9000        65.

      TRIALS        257.6094         1.         7.584       0.0077

      G BY T         44.5990         3.         1.313       0.2776

      ERROR (T)      33.9688        61.

     G MEAN            1            2            3            4
                  113.2308     107.6000     117.5556     112.7500

     T MEAN            1            2
                  114.0000     111.1846

     G BY T            1            2

        1         115.3846     111.0769

        2         109.8500     105.3500

        3         118.8889     116.2222

        4         112.3571     113.1429
```

```
GROUP 1    20 SUBJECTS.              ANGLO FEMALE    HI SHIFT

GROUP 2    22 SUBJECTS.              ANGLO FEMALE   HI...NO SHIFT

GROUP 3    22 SUBJECTS.              ANGLO FEMALE   LO...NO SHIFT

GROUP 4    23 SUBJECTS.              ANGLO FEMALE    LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE       MEAN SQUARE     D.F.      F-RATIO        P

TOTAL            10.9176     173.

BETWEEN          19.2005      86.

 GROUPS          31.9590       3.        1.705      0.1708

 ERROR (G)       18.7393      83.

WITHIN            2.7299      87.

 TRIALS          18.6724       1.        7.667      0.0070

 G BY T           5.5615       3.        2.284      0.0837

 ERROR (T)        2.4355      83.

G MEAN              1           2           3           4
                 14.5250     12.6818     14.4545     13.6522

T MEAN              1           2
                 14.1379     13.4828

G BY T              1           2

     1           14.5000     14.5500

     2           13.4545     11.9091

     3           14.5455     14.3636

     4           14.0870     13.2174
```

```
GROUP 1    13 SUBJECTS.

GROUP 2    17 SUBJECTS.

GROUP 3    19 SUBJECTS.

GROUP 4    14 SUBJECTS.
```

PRONENESS TOWARD NEUROTICISM (PTN)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           11.4560      125.

BETWEEN         18.7097       62.

 GROUPS         61.0552        3.        3.688      0.0166

 ERROR (G)      16.5565       59.

WITHIN           4.3175       63.

 TRIALS          0.2856        1.        0.063      0.7986

 G BY T          1.0330        3.        0.227      0.8777

 ERROR (T)       4.5528       59.

G MEAN             1            2            3           4
              9.4615       9.9706       6.9737      8.6429

T MEAN             1            2
              8.7143       8.6190

G BY T             1            2

    1         9.4615       9.4615

    2        10.1765       9.7647

    3         7.1053       6.8421

    4         8.4286       8.8571
```

```
GROUP 1     20 SUBJECTS.

GROUP 2     23 SUBJECTS.

GROUP 3     22 SUBJECTS.

GROUP 4     23 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO         P

TOTAL           50.2551      175.

BETWEEN         83.7774       87.

 GROUPS        104.3643        3.        1.257      0.2939

 ERROR (G)      83.0422       84.

WITHIN          17.1136       88.

 TRIALS         46.0225        1.        2.757      0.0967

 G BY T         19.1751        3.        1.148      0.3344

 ERROR (T)      16.6959       84.


G MEAN            1            2          3           4
               28.5750      25.1739    27.7045     26.0000


T MEAN            1            2
               27.3068      26.2841


G BY T            1            2

    1          29.5500      27.6000

    2          24.7391      25.6087

    3          28.5909      26.8182

    4          26.6957      25.3043
```

```
GROUP 1     22 SUBJECTS.

GROUP 2     24 SUBJECTS.

GROUP 3     23 SUBJECTS.

GROUP 4     22 SUBJECTS.


FEELINGS OF INFERIORITY (FI)

 SOURCE      MEAN SQUARE      D.F.      F-RATIO         P

 TOTAL           0.9175       181.

 BETWEEN         0.9118        90.

  GROUPS         1.2914         3.       1.437      0.2364

  ERROR (G)      0.8988        87.

 WITHIN          0.9231        91.

  TRIALS         0.3517         1.       0.372      0.5507

  G BY T         0.4526         3.       0.479      0.7022

  ERROR (T)      0.9459        87.


 G MEAN            1           2           3           4
                1.2500      1.3958      1.2174      1.5909


 T MEAN            1           2
                1.3187      1.4066


 G BY T            1           2

    1           1.2273      1.2727

    2           1.2917      1.5000

    3           1.3043      1.1304

    4           1.4545      1.7273
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)
    SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

    TOTAL            1.3884     181.

    BETWEEN          1.5867      90.

     GROUPS          4.5325       3.        3.052     0.0321

     ERROR (G)       1.4851      87.

    WITHIN           1.1923      91.

     TRIALS          0.9286       1.        0.774     0.6146

     G BY T          1.0478       3.        0.873     0.5392

     ERROR (T)       1.2003      87.

    G MEAN           1            2         3          4
                 1.2727       1.4375     1.2391     1.9318

    T MEAN           1            2
                 1.5385       1.3956

    G BY T           1            2
         1       1.2727       1.2727
         2       1.6250       1.2500
         3       1.1304       1.3478
         4       2.1364       1.7273

NEUROTIC SYMPTOMS, SOCIAL (NS)
    SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

    TOTAL            0.9712     181.

    BETWEEN          0.9365      90.

     GROUPS          2.4871       3.        2.817     0.0429

     ERROR (G)       0.8830      87.

    WITHIN           1.0055      91.

     TRIALS          5.9835       1.        6.152     0.0144

     G BY T          0.2977       3.        0.306     0.8229

     ERROR (T)       0.9727      87.

    G MEAN           1            2         3          4
                 1.1818       1.6875     1.3043     1.2273
```

```
T MEAN              1          2
               1.1758     1.5385

G BY T              1          2

   1           1.0909     1.2727

   2           1.4167     1.9583

   3           1.0870     1.5217

   4           1.0909     1.3636


REGRESSION WITH INDEPENDENCE STRIVINGS (RI)
  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL            2.5830      181.

  BETWEEN          2.9391       90.

   GROUPS          2.8854        3.        0.981     0.5931

   ERROR (G)       2.9409       87.

  WITHIN           2.2308       91.

   TRIALS          0.0220        1.        0.010     0.9176

   G BY T          3.4819        3.        1.573     0.2003

   ERROR (T)       2.2130       87.

  G MEAN              1          2          3          4
                 1.4773     1.2083     1.1957     1.7273

  T MEAN              1          2
                 1.4066     1.3846

  G BY T              1          2

     1           1.0909     1.8636

     2           1.2500     1.1667

     3           1.3043     1.0870

     4           2.0000     1.4545


ACTIVE WITHDRAWAL (AW)

  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL            2.2242      181.

  BETWEEN          3.3508       90.
  GROUPS          4.8993        3.          1.486       0.2228
  ERROR (G)       3.2974       87.
 WITHIN           1.1099       91.
  TRIALS          0.0220        1.          0.019       0.8844
  G BY T          0.8908        3.          0.788       0.5064
  ERROR (T)       1.1299       87.

 G MEAN           1            2            3            4
                1.3636       1.8542       1.2174       1.8409

 T MEAN           1            2
                1.5604       1.5824

 G BY T           1            2
      1         1.3182       1.4091
      2         2.0417       1.6667
      3         1.1304       1.3043
      4         1.7273       1.9545


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
 SOURCE       MEAN SQUARE     D.F.       F-RATIO         P
 TOTAL            1.0901      181.
 BETWEEN          1.5534       90.
  GROUPS          1.7188        3.        1.111       0.3495
  ERROR (G)       1.5477       87.
 WITHIN           0.6319       91.
  TRIALS          0.1374        1.        0.213       0.6508
  G BY T          0.3808        3.        0.589       0.6278
  ERROR (T)       0.6462       87.

 G MEAN           1            2            3            4
                1.2273       1.6667       1.3913       1.5682

 T MEAN           1            2
                1.4396       1.4945

 G BY T           1            2
      1         1.3182       1.1364
```

```
   2          1.6667      1.6667

   3          1.3043      1.4783

   4          1.4545      1.6818
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
SOURCE       MEAN SQUARE      D.F.       F-RATIO        P

TOTAL             0.7598      181.

BETWEEN           1.0613       90.

 GROUPS           1.9297        3.        1.871       0.1390

 ERROR (G)        1.0314       87.

WITHIN            0.4615       91.

 TRIALS           0.0000        1.        0.000       1.0000

 G BY T           0.2588        3.        0.546       0.6563

 ERROR (T)        0.4738       87.

G MEAN             1            2           3            4
                1.3409       1.3125      1.2391       1.7045

T MEAN             1            2
                1.3956       1.3956

G BY T             1            2

   1            1.3182       1.3636

   2            1.2500       1.3750

   3            1.3478       1.1304

   4            1.6818       1.7273
```

DIFFUSE HYPERACTIVITY (DH)

```
SOURCE       MEAN SQUARE      D.F.       F-RATIO        P

TOTAL             0.5739      181.

BETWEEN           0.8597       90.

 GROUPS           0.3080        3.        0.351       0.7916

 ERROR (G)        0.8787       87.

WITHIN            0.2912       91.

 TRIALS           0.1374        1.        0.469       0.5021
```

```
  G BY T          0.3027       3.       1.035     0.3823

  ERROR (T)       0.2926      87.

 G MEAN            1           2          3          4
                1.2045      1.2500     1.1739     1.3636

 T MEAN            1           2
                1.2198      1.2747

 G BY T            1           2

       1        1.2727      1.1364

       2        1.1250      1.3750

       3        1.1739      1.1739

       4        1.3182      1.4091
```

```
GROUP 1    20 SUBJECTS.              ANGLO FEMALE    HI SHIFT
GROUP 2    24 SUBJECTS.              ANGLO FEMALE   HI...NO SHIFT
GROUP 3    23 SUBJECTS.              ANGLO FEMALE   LO...NO SHIFT
GROUP 4    21 SUBJECTS.              ANGLO FEMALE    LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
TOTAL            0.0294      175.
BETWEEN          0.0435       87.
 GROUPS          0.0133        3.        0.298      0.8288
 ERROR (G)       0.0446       84.
WITHIN           0.0156       88.
 TRIALS          0.0327        1.        2.106      0.1467
 G BY T          0.0102        3.        0.654      0.5866
 ERROR (T)       0.0155       84.

G MEAN              1           2           3           4
               1.2335      1.2123      1.2200      1.1907

T MEAN              1           2
               1.2003      1.2276

G BY T              1           2
    1          1.2330      1.2340
    2          1.1904      1.2342
    3          1.1904      1.2496
    4          1.1914      1.1900
```

PEER REJECTION

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO       P
TOTAL             0.0386      175.
BETWEEN           0.0613       87.
 GROUPS           0.1439        3.        2.469     0.0664
 ERROR (G)        0.0583       84.
WITHIN            0.0162       88.
 TRIALS           0.0600        1.        4.049     0.0447
 G BY T           0.0389        3.        2.623     0.0548
 ERROR (T)        0.0148       84.

G MEAN              1            2            3            4
                1.1692       1.1904       1.1474       1.2795

T MEAN              1            2
                1.1772       1.2141

G BY T              1            2
     1          1.1780       1.1605
     2          1.1317       1.2492
     3          1.1417       1.1530
     4          1.2671       1.2919
```

```
GROUP 1    21 SUBJECTS.          ANGLO FEMALE    HI SHIFT

GROUP 2    24 SUBJECTS.          ANGLO FEMALE   HI...NO SHIFT

GROUP 3    23 SUBJECTS.          ANGLO FEMALE   LO...NO SHIFT

GROUP 4    22 SUBJECTS.          ANGLO FEMALE    LO SHIFT
```

SCHOOL ANXIETY (SA)

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO       P

TOTAL           274.4972      179.

BETWEEN         506.0168       89.

 GROUPS        4852.6979        3.       13.693     0.0000

 ERROR (G)      354.3884       86.

WITHIN           45.5500       90.

 TRIALS         390.1387        1.       42.441     0.0000

 G BY T         972.9365        3.      105.841     0.0000

 ERROR (T)        9.1925       86.

G MEAN              1            2           3           4
              23.2381      31.2917      7.4783     25.8409

T MEAN              1            2
              23.4667      20.5222

G BY T              1            2

    1         19.0000      27.4762

    2         32.7917      29.7917

    3          8.4783       6.4783

    4         33.2273      18.4545
```

```
SEX-LINKED INTERESTS, ATTITUDES (S)

    SOURCE       MEAN SQUARE       D.F.      F-RATIO          P

    TOTAL             9.7330       179.

    BETWEEN          16.0472        89.

     GROUPS           3.9808         3.        0.242        0.8677

     ERROR (G)       16.4681        86.

    WITHIN            3.4889        90.

     TRIALS           0.0000         1.        0.000        1.0000

     G BY T           4.8033         3.        1.379        0.2536

     ERROR (T)        3.4836        86.

    G MEAN            1            2            3            4
                    6.1905       6.6667       6.4783       6.9091

    T MEAN            1            2
                    6.5667       6.5667

    G BY T            1            2
         1          6.2857       6.0952
         2          7.0000       6.3333
         3          6.0435       6.9130
         4          6.9091       6.9091
```

```
SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

    SOURCE       MEAN SQUARE       D.F.      F-RATIO          P

    TOTAL             5.2056       179.

    BETWEEN           6.6831        89.

     GROUPS          10.4208         3.        1.590        0.1963

     ERROR (G)        6.5528        86.

    WITHIN            3.7444        90.

     TRIALS           1.8000         1.        0.468        0.5030

     G BY T           1.3935         3.        0.362        0.7835

     ERROR (T)        3.8491        86.

    G MEAN            1            2            3            4
                    4.2381       3.9167       3.1087       3.5682
```

```
T MEAN           1          2
            3.8000     3.6000

G BY T           1          2

   1        4.1905     4.2857

   2        4.0417     3.7917

   3        3.0870     3.1304

   4        3.9091     3.2273
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
SOURCE       MEAN SQUARE        D.F.       F-RATIO          P

TOTAL            11.2134        179.

BETWEEN          17.0360         89.

 GROUPS         109.6151          3.         7.939     0.0002

 ERROR (G)       13.8065         86.

WITHIN            5.4556         90.

 TRIALS           3.7556          1.         0.692     0.5872

 G BY T           6.8021          3.         1.253     0.2950

 ERROR (T)        5.4284         86.

G MEAN              1           2            3            4
              12.6429     14.3125      10.8696      13.8636

T MEAN              1           2
              13.0778     12.7889

G BY T              1           2

     1        12.3333     12.9524

     2        14.6250     14.0000

     3        10.8261     10.9130

     4        14.4545     13.2727
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
SOURCE       MEAN SQUARE        D.F.       F-RATIO          P

TOTAL            12.8684        179.

BETWEEN          18.0949         89.
```

```
 GROUPS         20.2233       3.        1.122     0.3448

 ERROR (G)      18.0206      86.

WITHIN           7.7000      90.

 TRIALS         28.8003       1.        3.793     0.0517

 G BY T          3.7412       3.        0.493     0.6925

 ERROR (T)       7.5927      86.


G MEAN             1            2           3           4
               13.5714      13.6667     13.9565     15.0455

T MEAN             1            2
               14.4556      13.6556

G BY T             1            2
      1        13.6190      13.5238

      2        14.4167      12.9167

      3        14.3043      13.6087
      4        15.4545      14.6364
```

TABLE 27.

T X S ANALYSES OF VARIANCE FOR ANGLO FEMALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_3 AND T_4

GROUP 1	16 SUBJECTS.	ANGLO FEMALE	HI SHIFT
GROUP 2	18 SUBJECTS.	ANGLO FEMALE	HI...NO SHIFT
GROUP 3	18 SUBJECTS.	ANGLO FEMALE	LO...NO SHIFT
GROUP 4	20 SUBJECTS.	ANGLO FEMALE	LO SHIFT

MAT NONVERBAL (NV)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.7266	143.		
BETWEEN	1.2038	71.		
GROUPS	0.9569	3.	0.788	0.5077
ERROR (G)	1.2147	68.		
WITHIN	0.2560	72.		
TRIALS	9.5069	1.	72.966	0.0000
G BY T	0.0209	3.	0.160	0.9222
ERROR (T)	0.1303	68.		

G MEAN	1	2	3	4
	5.4000	5.5722	5.7222	5.3750

T MEAN	1	2
	5.2597	5.7736

G BY T	1	2
1	5.1625	5.6375
2	5.2944	5.8500
3	5.4444	6.0000
4	5.1400	5.6100

MAT VERBAL (V)

```
SOURCE        MEAN SQUARE      D.F.       F-RATIO         P
TOTAL             3.9588       143.
BETWEEN           7.2849        71.
 GROUPS           0.9177         3.         0.121       0.9465
 ERROR (G)        7.5658        68.

WITHIN            0.6789        72.
 TRIALS          11.3906         1.        23.440       0.0001
 G BY T           1.4829         3.         3.051       0.0336
 ERROR (T)        0.4860        68.

G MEAN               1           2            3            4
                  6.4531      6.4583       6.4139       6.1350

T MEAN               1           2
                  6.0750      6.6375

G BY T               1           2

      1           5.8812      7.0250

      2           6.3667      6.5500

      3           6.2389      6.5889

      4           5.8200      6.4500
```

```
    GROUP 1     14 SUBJECTS.
    GROUP 2     18 SUBJECTS.
    GROUP 3     21 SUBJECTS.
    GROUP 4     12 SUBJECTS.

CTMM NONVERBAL (NV)
    SOURCE      MEAN SQUARE      D.F.      F-RATIO       P
    TOTAL          239.7140      129.
    BETWEEN        436.2830       64.
     GROUPS         98.1563        3.        0.217      0.8847
     ERROR (G)     452.9121       61.
    WITHIN          46.1692       65.
     TRIALS        365.5625        1.        8.666      0.0048
     G BY T         20.7083        3.        0.491      0.6940
     ERROR (T)      42.1855       61.

    G MEAN           1            2           3            4
                  119.3929     115.1667    117.6667     117.6250

    T MEAN           1            2
                  115.6615     119.0154

    G BY T           1            2
         1        116.8571     121.9286
         2        113.4444     116.8889
         3        115.8571     119.4762
         4        117.2500     118.0000
```

CTMM VERBAL (V)

```
SOURCE      MEAN SQUARE     D.F.       F-RATIO        P

TOTAL          225.5888     129.

BETWEEN        412.0383      64.

 GROUPS        182.8958       3.         0.432     0.7345

 ERROR (G)     423.3076      61.

WITHIN          42.0077      65.

 TRIALS        128.0156       1.         3.623     0.0585

 G BY T        149.1094       3.         4.220     0.0090

 ERROR (T)      35.3304      61.

G MEAN            1           2            3           4
              115.2500    111.7500     112.4286    108.7917

T MEAN            1           2
              111.1846    113.1692

G BY T            1           2

   1          113.4286    117.0714

   2          110.3889    113.1111

   3          113.8571    111.0000

   4          105.0833    112.5000
```

```
GROUP 1   23 SUBJECTS.          ANGLO FEMALE    HI SHIFT
GROUP 2   21 SUBJECTS.          ANGLO FEMALE   HI...NO SHIFT
GROUP 3   23 SUBJECTS.          ANGLO FEMALE   LO...NO SHIFT
GROUP 4   20 SUBJECTS.          ANGLO FEMALE    LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE     MEAN SQUARE  D.F.  F-RATIO      P
TOTAL         11.2651  173.
BETWEEN       21.0507   86.
 GROUPS        7.4200    3.    0.344    0.7959
 ERROR (G)    21.5433   83.
WITHIN         1.5920   87.
 TRIALS        7.8679    1.    5.000    0.0263
 G BY T        0.0095    3.    0.006    0.9991
 ERROR (T)     1.5735   83.

G MEAN          1          2          3          4
             13.2609    13.8571    14.1739    13.4750

T MEAN          1          2
             13.4828    13.9080

G BY T          1          2
    1        13.0435    13.4783
    2        13.6667    14.0476
    3        13.9565    14.3913
    4        13.2500    13.7000
```

```
   GROUP 1    14 SUBJECTS.

   GROUP 2    14 SUBJECTS.

   GROUP 3    21 SUBJECTS.

   GROUP 4    14 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

   SOURCE     MEAN SQUARE    D.F.      F-RATIO        P

   TOTAL          12.7000    125.

   BETWEEN        21.5968     62.

    GROUPS        59.8412      3.        3.045       0.0350

    ERROR (G)     19.6521     59.

   WITHIN          3.9444     63.

    TRIALS        25.7856      1.        7.425       0.0083

    G BY T         5.9365      3.        1.709       0.1736

    ERROR (T)      3.4730     59.


   G MEAN          1          2          3           4
                9.4286     8.4286     6.5476      9.0714


   T MEAN          1          2
                8.6190     7.7143


   G BY T          1          2

          1     9.7857     9.0714

          2     8.5714     8.2857

          3     6.8095     6.2857

          4    10.2143     7.9286
```

```
GROUP 1   16 SUBJECTS.

GROUP 2   14 SUBJECTS.

GROUP 3   20 SUBJECTS.

GROUP 4   16 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE   MEAN SQUARE   D.F.  F-RATIO      P

TOTAL        58.8417   131.

BETWEEN      92.7964    65.

 GROUPS      13.8288     3.    0.143    0.9330

 ERROR (G)   96.6174    62.

WITHIN       25.4015    66.

 TRIALS      18.1895     1.    0.707    0.5917

 G BY T      21.3262     3.    0.829    0.5145

 ERROR (T)   25.7150    62.

G MEAN          1          2          3          4
             23.3750    23.1429    24.5250    23.4375

T MEAN          1          2
             24.0606    23.3182

G BY T          1          2

     1       24.2500    22.5000

     2       22.2143    24.0714

     3       25.0000    24.0500

     4       24.3125    22.5625
     GROUP 1     20 SUBJECTS.

     GROUP 2     25 SUBJECTS.

     GROUP 3     26 SUBJECTS.

     GROUP 4     20 SUBJECTS.


  FEELINGS OF INFERIORITY (FI)

     SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

     TOTAL            1.6426      181.

     BETWEEN          2.3756       90.

      GROUPS          1.9777        3.        0.828      0.5151

      ERROR (G)       2.3893       87.

     WITHIN           0.9176       91.

      TRIALS          2.9066        1.        3.181      0.0743

      G BY T          0.3686        3.        0.403      0.7544

      ERROR (T)       0.9137       87.


     G MEAN          1          2          3          4
                  1.5000     1.5000     1.3462     1.8500


     T MEAN          1          2
                  1.4066     1.6593


     G BY T          1          2

         1        1.5000     1.5000

         2        1.2800     1.7200

         3        1.2308     1.4615

         4        1.7000     2.0000
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            1.5001      181.

    BETWEEN          2.0280       90.

     GROUPS          4.7149        3.        2.436      0.0689

     ERROR (G)       1.9353       87.

    WITHIN           0.9780       91.

     TRIALS          7.9341        1.        9.245      0.0034

     G BY T          2.1344        3.        2.487      0.0647

     ERROR (T)       0.8582       87.

    G MEAN             1          2          3          4
                 1.7250     1.4600     1.3077     2.0500

    T MEAN             1          2
                 1.3956     1.8132

    G BY T             1          2
       1         1.3000     2.1500

       2         1.4800     1.4400

       3         1.1923     1.4231

       4         1.6500     2.4500


NEUROTIC SYMPTOMS, SOCIAL (NS)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            1.3070      181.

    BETWEEN          1.5286       90.

     GROUPS          1.0529        3.        0.682      0.5691

     ERROR (G)       1.5450       87.

    WITHIN           1.0879       91.

     TRIALS          0.1978        1.        0.180      0.6757

     G BY T          1.1360        3.        1.036      0.3816

     ERROR (T)       1.0965       87.

    G MEAN             1          2          3          4
                 1.6500     1.6800     1.3654     1.6250
```

```
T MEAN            1            2
             1.5385       1.6044

G BY T            1            2

     1       1.8000       1.5000

     2       1.4800       1.8800

     3       1.2692       1.4615

     4       1.7000       1.5500
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE        MEAN SQUARE       D.F.      F-RATIO          P

TOTAL             2.1321       181.

BETWEEN           3.2324        90.

 GROUPS           3.5801         3.         1.112      0.3491

 ERROR (G)        3.2204        87.

WITHIN            1.0440        91.

 TRIALS           0.0879         1.         0.086      0.7673

 G BY T           2.0083         3.         1.966      0.1237

 ERROR (T)        1.0217        87.

G MEAN            1            2            3            4
             1.3250       1.3400       1.1923       1.8500

T MEAN            1            2
             1.3846       1.4286

G BY T            1            2

     1       1.1000       1.5500

     2       1.2800       1.4000

     3       1.1154       1.2692

     4       2.1500       1.5500
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE        MEAN SQUARE       D.F.      F-RATIO          P

TOTAL             2.1075       181.

BETWEEN           3.7272        90.
```

```
 GROUPS          3.9729      3.          1.068       0.3674

 ERROR (G)       3.7188     87.

WITHIN           0.5055     91.

 TRIALS          1.7802      1.          3.570       0.0589

 G BY T          0.2775      3.          0.556       0.6494

 ERROR (T)       0.4987     87.

G MEAN           1           2           3           4
                 1.8500      1.2200      1.3077      1.6750

T MEAN           1           2
                 1.5824      1.3846

G BY T           1           2

    1            1.9000      1.8000

    2            1.2800      1.1600

    3            1.3846      1.2308

    4            1.9000      1.4500


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
SOURCE       MEAN SQUARE    D.F.      F-RATIO          P

TOTAL            1.1685    181.

BETWEEN          1.7722     90.

 GROUPS          3.0941      3.          1.792       0.1532

 ERROR (G)       1.7266     87.

WITHIN           0.5714     91.

 TRIALS          0.0220      1.          0.038       0.8398

 G BY T          0.6296      3.          1.094       0.3566

 ERROR (T)       0.5757     87.

G MEAN           1           2           3           4
                 1.3250      1.8600      1.3269      1.4750

T MEAN           1           2
                 1.4945      1.5165

G BY T           1           2
    1            1.2500      1.4000
```

```
       2         1.7200     2.0000
       3         1.4231     1.2308
       4         1.5500     1.4000

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            0.7819      181.

    BETWEEN          1.1724       90.

     GROUPS          0.4181        3.        0.349     0.7928

     ERROR (G)       1.1984       87.

    WITHIN           0.3956       91.

     TRIALS          0.0000        1.        0.000     1.0000

     G BY T          0.4669        3.        1.174     0.3241

     ERROR (T)       0.3977       87.

    G MEAN           1          2          3          4
                 1.3000     1.4600     1.3269     1.5000

    T MEAN           1          2
                 1.3956     1.3956

    G BY T           1          2

       1         1.3000     1.3000

       2         1.4400     1.4800

       3         1.2308     1.4231

       4         1.6500     1.3500


DIFFUSE HYPERACTIVITY (DH)
    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            0.5404      181.

    BETWEEN          0.7701       90.

     GROUPS          0.5850        3.        0.753     0.5262

     ERROR (G)       0.7765       87.

    WITHIN           0.3132       91.

     TRIALS          0.0055        1.        0.017     0.8906
```

```
 G BY T          0.3529      3.        1.119     0.3460

 ERROR (T)       0.3154     87.

G MEAN            1           2          3          4
               1.4000      1.2600     1.1346     1.3250

T MEAN            1           2
               1.2747      1.2637

G BY T            1           2

       1       1.3000      1.5000

       2       1.2800      1.2400

       3       1.1154      1.1538

       4       1.4500      1.2000
```

```
GROUP 1     17 SUBJECTS.

GROUP 2     16 SUBJECTS.

GROUP 3     22 SUBJECTS.

GROUP 4     15 SUBJECTS.
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO        P

TOTAL             0.0918      139.

BETWEEN           0.1247       69.

 GROUPS           0.0907        3.        0.719      0.5475

 ERROR (G)        0.1263       66.

WITHIN            0.0594       70.

 TRIALS           1.0649        1.       23.218      0.0001

 G BY T           0.0210        3.        0.457      0.7173

 ERROR (T)        0.0459       66.

G MEAN              1           2           3           4
                 1.3879      1.2641      1.3214      1.3530

T MEAN              1           2
                 1.2440      1.4184

G BY T              1           2

     1           1.2824      1.4935

     2           1.2150      1.3131

     3           1.2264      1.4164

     4           1.2573      1.4487
```

PEER REJECTION

```
  SOURCE      MEAN SQUARE     D.F.     F-RATIO       P
  TOTAL          0.1454       139.
  BETWEEN        0.1865        69.
   GROUPS        0.0785         3.       0.410     0.7499
   ERROR (G)     0.1914        66.
  WITHIN         0.1049        70.
   TRIALS        0.4803         1.       4.747     0.0310
   G BY T        0.0607         3.       0.600     0.6213
   ERROR (T)     0.1012        66.

  G MEAN           1           2           3           4
                1.3079      1.1922      1.2659      1.2773

  T MEAN           1           2
                1.2031      1.3203

  G BY T           1           2
         1      1.2259      1.3900
         2      1.1994      1.1850
         3      1.1855      1.3464
         4      1.2073      1.3473
```

```
GROUP 1    23 SUBJECTS.              ANGLO FEMALE    HI SHIFT
GROUP 2    22 SUBJECTS.              ANGLO FEMALE   HI...NO SHIFT
GROUP 3    24 SUBJECTS.              ANGLO FEMALE   LO...NO SHIFT
GROUP 4    21 SUBJECTS.              ANGLO FEMALE    LO SHIFT
```

SCHOOL ANXIETY (SA)

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO        P
TOTAL          259.5891       179.
BETWEEN        445.6567        89.
 GROUPS       4882.1168         3.       16.783      0.0000
 ERROR (G)     290.8965        86.
WITHIN          75.5889        90.
 TRIALS        153.0889         1.        7.735      0.0067
 G BY T       1649.2773         3.       83.332      0.0000
 ERROR (T)      19.7916        86.

G MEAN            1           2            3           4
               25.6522     28.2273      6.5625     26.7381

T MEAN            1           2
               20.5222     22.3667

G BY T            1           2
    1          17.0000     34.3043
    2          27.9091     28.5455
    3           6.2083      6.9167
    4          33.0000     20.4762
```

SEX-LINKED INTERESTS, ATTITUDES (S)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	10.7407	179.		
BETWEEN	16.8604	89.		
GROUPS	6.3439	3.	0.368	0.7791
ERROR (G)	17.2273	86.		
WITHIN	4.6889	90.		
TRIALS	21.3556	1.	4.639	0.0320
G BY T	1.5741	3.	0.342	0.7977
ERROR (T)	4.6037	86.		

G MEAN	1	2	3	4
	7.3478	6.7727	7.0208	6.4524

T MEAN	1	2
	6.5667	7.2556

G BY T	1	2
1	7.1304	7.5652
2	6.4545	7.0909
3	6.4167	7.6250
4	6.2381	6.6667

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	7.0779	179.		
BETWEEN	8.4545	89.		
GROUPS	30.1675	3.	3.919	0.0113
ERROR (G)	7.6971	86.		
WITHIN	5.7167	90.		
TRIALS	31.2500	1.	5.802	0.0172
G BY T	6.6718	3.	1.239	0.3002
ERROR (T)	5.3864	86.		

G MEAN	1	2	3	4
	4.8261	3.6591	3.0833	4.5714

```
T MEAN            1           2
             3.6000      4.4333

G BY T            1           2

   1         3.8696      5.7826

   2         3.4091      3.9091

   3         3.0000      3.1667

   4         4.1905      4.9524
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           13.6018      179.

BETWEEN         21.8677       89.

 GROUPS        146.6899        3.        8.376      0.0002

 ERROR (G)      17.5135       86.

WITHIN           5.4278       90.

 TRIALS          0.1387        1.        0.025      0.8703

 G BY T          1.1883        3.        0.211      0.8888

 ERROR (T)       5.6372       86.

G MEAN            1           2           3           4
            12.9783     14.5682     10.3542     13.3810

T MEAN            1           2
            12.7889     12.7333

G BY T            1           2

   1        12.8261     13.1304

   2        14.5455     14.5909

   3        10.5833     10.1250

   4        13.4286     13.3333
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           14.6313      179.

BETWEEN         20.1348       89.
```

```
 GROUPS          9.8420         3.         0.480      0.7010

 ERROR (G)      20.4939        86.

WITHIN           9.1889        90.

 TRIALS          4.3555         1.         0.457      0.5077

 G BY T          1.2438         3.         0.131      0.9409

 ERROR (T)       9.5222        86.


G MEAN             1             2            3            4
                12.9130      14.0000      13.7083      13.3810


T MEAN             1             2
                13.6556      13.3444


G BY T             1             2

     1          13.1304      12.6957

     2          14.3636      13.6364

     3          13.7083      13.7083

     4          13.4286      13.3333
```

TABLE 28.

T X S ANALYSES OF VARIANCE FOR NONANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_1 AND T_2

GROUP 1	15 SUBJECTS.	NONANGLO MALE	HI SHIFT
GROUP 2	17 SUBJECTS.	NONANGLO MALE	HI...NO SHIFT
GROUP 3	11 SUBJECTS.	NONANGLO MALE	LO...NO SHIFT
GROUP 4	16 SUBJECTS.	NONANGLO MALE	LO SHIFT

MAT NONVERBAL (NV)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.7111	117.		
BETWEEN	0.9036	58.		
GROUPS	2.2265	3.	2.678	0.0549
ERROR (G)	0.8314	55.		
WITHIN	0.5218	59.		
TRIALS	20.7648	1.	132.722	0.0000
G BY T	0.4717	3.	3.015	0.0369
ERROR (T)	0.1565	55.		

G MEAN	1	2	3	4
	3.6367	3.8294	4.2045	3.5281

T MEAN	1	2
	3.3492	4.1881

G BY T	1	2
1	3.2067	4.0667
2	3.4353	4.2235
3	3.5818	4.8273
4	3.2312	3.8250

MAT VERBAL (V)

```
SOURCE        MEAN SQUARE       D.F.       F-RATIO          P

TOTAL              0.9335       117.

BETWEEN            1.4418        58.

 GROUPS            6.6297         3.         5.721       0.0021

 ERROR (G)         1.1588        55.

WITHIN             0.4337        59.

 TRIALS           16.1098         1.        95.115       0.0000

 G BY T            0.0549         3.         0.324       0.8102

 ERROR (T)         0.1694        55.

G MEAN              1             2            3            4
                 3.3167        3.3471       4.3455       3.2281

T MEAN              1             2
                 3.1237        3.8627

G BY T              1             2

   1             2.9733        3.6600

   2             2.9824        3.7118

   3             3.9000        4.7909

   4             2.8812        3.5750
```

```
GROUP 1     16 SUBJECTS.

GROUP 2     16 SUBJECTS.

GROUP 3     18 SUBJECTS.

GROUP 4     17 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE      MEAN SQUARE     D.F.       F-RATIO          P

TOTAL          47.3294      133.

BETWEEN        68.8456       66.

 GROUPS        22.3545        3.         0.315      0.8168

 ERROR (G)     71.0594       63.

WITHIN         26.1343       67.

 TRIALS        93.6123        1.         3.602      0.0591

 G BY T         6.6693        3.         0.257      0.8573

 ERROR (T)     25.9902       63.

G MEAN            1           2            3           4
               22.5313     21.9688      23.3611     21.5000

T MEAN            1           2
               23.1940     21.5224

G BY T            1           2

   1           23.3750     21.6875

   2           23.4375     20.5000

   3           23.7778     22.9444

   4           22.1765     20.8235
```

```
GROUP 1     20 SUBJECTS.                NONANGLO MALE   HI SHIFT
GROUP 2     20 SUBJECTS.                NONANGLO MALE   HI...NO SHIFT
GROUP 3     18 SUBJECTS.                NONANGLO MALE   LO...NO SHIFT
GROUP 4     20 SUBJECTS.                NONANGLO MALE   LO SHIFT
TOTAL =     78 SUBJECTS.

DEGREES OF FREEDOM
   3 AND    74 FOR GROUPS.
   1 AND    74 FOR TREATMENTS.
   3 AND    74 FOR INTERACTION.
```

SCHOOL ANXIETY (SA)

```
GROUPS F RATIO =  18.033      P = .0000

MEANS.        35.5000    45.6000    18.3333    34.6750

TREATMENTS F RATIO =  15.805     P = .0004

MEANS.        35.3846    32.4487

INTERACTION F RATIO = 115.167     P = .0000

GROUP  1      27.4000    43.6000
GROUP  2      47.7000    43.5000
GROUP  3      19.1111    17.5556
GROUP  4      45.7000    23.6500
```

SEX-LINKED INTERESTS, ATTITUDES (S)

```
GROUPS F RATIO =    1.717     P = .1694

MEANS.         8.9500    10.1750     8.9167     8.9000

TREATMENTS F RATIO =   4.719     P = .0310
```

```
MEANS.          8.8718      9.6154

INTERACTION F RATIO =     .678      P = .5720

GROUP  1        8.5500      9.3500

GROUP  2       10.2000     10.1500

GROUP  3        8.3889      9.4444

GROUP  4        8.3000      9.5000
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
GROUPS F RATIO =     .593      P = .6256

MEANS.          4.3500      4.8750      4.3056      4.3500

TREATMENTS F RATIO =   4.539      P = .0343

MEANS.          4.1410      4.8077

INTERACTION F RATIO =     .790      P = .5060

GROUP  1        4.0500      4.6500

GROUP  2        4.1500      5.6000

GROUP  3        4.1111      4.5000

GROUP  4        4.2500      4.4500
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
GROUPS F RATIO =   2.137      P = .1014

MEANS.         13.4000     14.1000     12.3611     13.1250

TREATMENTS F RATIO =  25.922      P = .0000

MEANS.         14.1282     12.4103

INTERACTION F RATIO =   6.705      P = .0007

GROUP  1       13.3500     13.4500

GROUP  2       14.9000     13.3000

GROUP  3       13.0000     11.7222

GROUP  4       15.1500     11.1000
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
GROUPS F RATIO =   1.380      P = .2544

MEANS.         15.3750     14.3000     13.9167     14.2250
```

```
TREATMENTS F RATIC =  10.232      P = .0024

MEANS.       15.0641    13.8718

INTERACTICN F RATIC =    3.880      P = .C124

GROUP  1     14.9500    15.800C

GROUP  2     15.1500    13.450C

GROUP  3     14.6111    13.2222

GROUP  4     15.5000    12.950C
GROUP 1     11 SUBJECTS.
GROUP 2     13 SUBJECTS.
GROUP 3     11 SUBJECTS.
GROUP 4     10 SUBJECTS.
```

CTMM NONVERBAL (NV)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO         P
TOTAL           266.1753       89.
BETWEEN         469.4228       44.
 GROUPS         980.9010        3.        2.271      0.0935
 ERROR (G)      431.9975       41.
WITHIN           67.4444       45.
 TRIALS         798.0391        1.       16.502      0.0004
 G BY T          84.7344        3.        1.752      0.1702
 ERROR (T)       48.3599       41.

G MEAN             1            2           3           4
                85.4545      80.2308     95.7727     87.5500

T MEAN             1            2
                83.9556      89.9111

G BY T             1            2
    1           81.5455      89.3636
    2           79.0000      81.4615
    3           90.4545     101.0909
    4           85.9000      89.2000
```

CTMM VERBAL (V)

```
    SOURCE        MEAN SQUARE        D.F.        F-RATIO          P

    TOTAL            178.9370         89.

    BETWEEN          327.8611         44.

     GROUPS          168.5443          3.          0.496        0.6908

     ERROR (G)       339.5185         41.

    WITHIN            33.3222         45.

     TRIALS          117.8750          1.          4.030        0.0486

     G BY T           60.7969          3.          2.079        0.1167

     ERROR (T)        29.2496         41.

    G MEAN              1              2             3             4
                     90.3636        86.6923       91.5909       85.9000

    T MEAN              1              2
                     87.4667        89.7556

    G BY T              1              2

       1             89.2727        91.4545

       2             86.9231        86.4615

       3             88.0909        95.0909

       4             85.5000        86.3000
```

```
   GROUP 1     20 SUBJECTS.

   GROUP 2     20 SUBJECTS.

   GROUP 3     18 SUBJECTS.

   GROUP 4     20 SUBJECTS.

FEELINGS OF INFERIORITY (FI)

   SOURCE       MEAN SQUARE       D.F.       F-RATIO         P

   TOTAL             1.9209       155.

   BETWEEN           2.7629        77.

    GROUPS           0.9571         3.         0.337       0.8008

    ERROR (G)        2.8361        74.

   WITHIN            1.0897        78.

    TRIALS           3.1026         1.         2.847       0.0919

    G BY T           0.4158         3.         0.382       0.7698

    ERROR (T)        1.0899        74.

   G MEAN            1              2           3             4
                1.7250         1.5500      1.7778        1.9250

   T MEAN            1              2
                1.6026         1.8846

   G BY T            1              2

     1          1.4500         2.0000

     2          1.5000         1.6000

     3          1.6111         1.9444

     4          1.8500         2.0000
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

    SOURCE       MEAN SQUARE       D.F.        F-RATIO          P

    TOTAL             2.7507       155.

    BETWEEN           4.0566        77.

     GROUPS           0.2780         3.          0.066        0.9770

     ERROR (G)        4.2098        74.

    WITHIN            1.4615        78.

     TRIALS           5.7692         1.          4.176        0.0420

     G BY T           2.0019         3.          1.449        0.2343

     ERROR (T)        1.3814        74.

    G MEAN              1             2            3             4
                   2.0000        1.8750       1.9167        1.8000

    T MEAN              1             2
                   1.7051        2.0897

    G BY T              1             2
        1          1.6000        2.4000
        2          1.9500        1.8000
        3          1.8333        2.0000
        4          1.4500        2.1500


NEUROTIC SYMPTOMS, SOCIAL (NS)

    SOURCE       MEAN SQUARE       D.F.        F-RATIO          P

    TOTAL             1.6656       155.

    BETWEEN           0.9178        77.

     GROUPS           0.4058         3.          0.432        0.7342

     ERROR (G)        0.9386        74.

    WITHIN            2.4038        78.

     TRIALS         116.8269         1.        124.471        0.0000

     G BY T           0.4058         3.          0.432        0.7342

     ERROR (T)        0.9386        74.

    G MEAN              1             2            3             4
                   0.9250        0.9500       0.8611        0.7250
```

```
T MEAN             1           2
               1.7308      0.0000

G BY T             1           2
   1           1.8500     -0.0000
   2           1.9000     -0.0000
   3           1.7222     -0.0000
   4           1.4500     -0.0000
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO          P

TOTAL            5.4496       155.

BETWEEN          7.3920        77.

 GROUPS          7.7768         3.        1.054      0.3745

 ERROR (G)       7.3764        74.

WITHIN           3.5321        78.

 TRIALS          0.5192         1.        0.148      0.7031

 G BY T          5.3269         3.        1.522      0.2146

 ERROR (T)       3.5000        74.

G MEAN             1           2            3           4
               1.9500      2.5750       1.6389      1.6250

T MEAN             1           2
               2.0128      1.8974

G BY T             1           2
   1           1.8500      2.0500
   2           2.9000      2.2500
   3           2.0556      1.2222
   4           1.2500      2.0000
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO          P

TOTAL            2.4706       155.

BETWEEN          3.0577        77.
```

```
  GROUPS            0.8058         3.          0.256       0.8579
  ERROR (G)         3.1490        74.
 WITHIN             1.8910        78.
  TRIALS            0.5192         1.          0.263       0.6156
  G BY T            0.3334         3.          0.169       0.9166
  ERROR (T)         1.9727        74.

 G MEAN             1             2            3            4
                 2.1750        1.9750       1.8333       2.0750

 T MEAN             1             2
                 2.0769        1.9615

  G BY T            1             2
     1           2.3000        2.0500
     2           2.0500        1.9000
     3           1.9444        1.7222
     4           2.0000        2.1500
```

EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)

```
 SOURCE       MEAN SQUARE      D.F.      F-RATIO          P
 TOTAL              0.6187       155.
 BETWEEN            0.9597        77.
  GROUPS            0.6075         3.          0.624       0.6058
  ERROR (G)         0.9740        74.
 WITHIN             0.2821        78.
  TRIALS            0.0256         1.          0.087       0.7667
  G BY T            0.0257         3.          0.087       0.9662
  ERROR (T)         0.2959        74.

 G MEAN             1             2            3            4
                 1.4250        1.1750       1.4167       1.4250

 T MEAN             1             2
                 1.3462        1.3718

 G BY T             1             2
     1           1.4000        1.4500
```

```
        2          1.1500      1.2000
        3          1.4444      1.3889
        4          1.4000      1.4500
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
    TOTAL            0.5808      155.
    BETWEEN          0.8769       77.
     GROUPS          0.9657        3.        1.106      0.3526
     ERROR (G)       0.8733       74.
    WITHIN           0.2885       78.
     TRIALS          1.4423        1.        5.390      0.0217
     G BY T          0.4192        3.        1.567      0.2033
     ERROR (T)       0.2676       74.

    G MEAN             1           2           3           4
                   1.2750      1.2000      1.5278      1.1750

    T MEAN             1           2
                   1.1923      1.3846

    G BY T             1           2
        1          1.2000      1.3500
        2          1.2000      1.2000
        3          1.2778      1.7778
        4          1.1000      1.2500
```

DIFFUSE HYPERACTIVITY (DH)

```
    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
    TOTAL            0.7872      155.
    BETWEEN          0.2795       77.
     GROUPS          0.0434        3.        0.150      0.9286
     ERROR (G)       0.2890       74.
    WITHIN           1.2885       78.
     TRIALS         78.9808        1.      273.253      0.0000
```

```
 G BY T           0.0434      3.       0.150     0.9286

 ERROR (T)        0.2890     74.

G MEAN             1           2          3          4
                 0.7500      0.7250     0.6944     0.6750

T MEAN             1           2
                 1.4231      0.0000

G BY T             1           2

     1           1.5000     -0.0000

     2           1.4500     -0.0000

     3           1.3889     -0.0000

     4           1.3500     -0.0000
```

```
GROUP 1    17 SUBJECTS.

GROUP 2    15 SUBJECTS.

GROUP 3    18 SUBJECTS.

GROUP 4    16 SUBJECTS.


GRADE POINT AVERAGE (GPA)

SOURCE      MEAN SQUARE      D.F.     F-RATIO        P

TOTAL            7.5876      131.

BETWEEN         13.5380       65.

 GROUPS         52.8154        3.       4.538      0.0064

 ERROR (G)      11.6375       62.

WITHIN           1.7273       66.

 TRIALS         17.4545        1.      12.116      0.0013

 G BY T          2.4082        3.       1.672      0.1810

 ERROR (T)       1.4407       62.

G MEAN            1           2          3           4
             10.9412     10.0667    12.1389      9.2188

T MEAN            1           2
             10.2879     11.0152

G BY T            1           2

     1       10.5294     11.3529

     2        9.8000     10.3333

     3       12.0556     12.2222

     4        8.5000      9.9375
```

```
GROUP 1    20 SUBJECTS.                 NONANGLO MALE   HI SHIFT

GROUP 2    20 SUBJECTS.                 NONANGLO MALE   HI...NO SHIFT

GROUP 3    17 SUBJECTS.                 NONANGLO MALE   LO...NO SHIFT

GROUP 4    20 SUBJECTS.                 NONANGLO MALE   LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            0.0256      153.

BETWEEN          0.0340       76.

 GROUPS          0.0277        3.        0.809      0.5043

 ERROR (G)       0.0342       73.

WITHIN           0.0174       77.

 TRIALS          0.0044        1.        0.256      0.6206

 G BY T          0.0288        3.        1.686      0.1762

 ERROR (T)       0.0171       73.

G MEAN            1            2            3            4
               1.1775       1.1892       1.2412       1.2052

T MEAN            1            2
               1.2071       1.1965

G BY T            1            2

     1         1.1820       1.1730

     2         1.1815       1.1970

     3         1.2194       1.2629

     4         1.2475       1.1630
```

PEER REJECTION

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL          0.0297        153.

BETWEEN        0.0407         76.

 GROUPS        0.0290          3.        0.703       0.5565

 ERROR (G)     0.0412         73.

WITHIN         0.0188         77.

 TRIALS        0.0201          1.        1.053       0.3090

 G BY T        0.0116          3.        0.606       0.6172

 ERROR (T)     0.0191         73.

G MEAN          1              2           3             4
             1.2497         1.2295      1.1826        1.2290

T MEAN          1              2
             1.2357         1.2129

G BY T          1              2

    1        1.2440         1.2555

    2        1.2630         1.1960

    3        1.1982         1.1671

    4        1.2320         1.2260
    GROUP 1     13 SUBJECTS.

    GROUP 2     14 SUBJECTS.

    GROUP 3     14 SUBJECTS.

    GROUP 4     11 SUBJECTS.

PRONENESS TOWARD NEUROTICISM (PTN)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

    TOTAL           7.6168       103.

    BETWEEN         9.2947        51.

     GROUPS        13.8792         3.        1.541     0.2149

      ERROR (G)     9.0082        48.

    WITHIN          5.9712        52.

     TRIALS        29.0865         1.        5.953     0.0175

     G BY T        15.6297         3.        3.199     0.0309

     ERROR (T)      4.8859        48.

    G MEAN            1            2           3           4
                   9.7308      11.0714      9.4643      9.9545

    T MEAN            1            2
                  10.5962       9.5385

    G BY T            1            2

         1         9.3846      10.0769

         2        11.7857      10.3571

         3         9.7857       9.1429

         4        11.5455       8.3636
```

TABLE 29.

T X S ANALYSES OF VARIANCE FOR NONANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_2 AND T_3

GROUP 1	16 SUBJECTS.	NONANGLO MALE	HI SHIFT
GROUP 2	16 SUBJECTS.	NONANGLO MALE	HI...NO SHIFT
GROUP 3	12 SUBJECTS.	NONANGLO MALE	LO...NO SHIFT
GROUP 4	15 SUBJECTS.	NONANGLO MALE	LO SHIFT

MAT NONVERBAL (NV)

SOURCE	MEAN SQUARE	D.F.	F-RATIO	P
TOTAL	0.5678	117.		
BETWEEN	0.7844	58.		
GROUPS	0.9323	3.	1.201	0.3178
ERROR (G)	0.7764	55.		
WITHIN	0.3548	59.		
TRIALS	6.2238	1.	27.807	0.0000
G BY T	0.8003	3.	3.576	0.0193
ERROR (T)	0.2238	55.		

G MEAN	1	2	3	4
	4.2812	4.2875	4.4917	4.6433

T MEAN	1	2
	4.1881	4.6475

G BY T	1	2
1	3.8812	4.6812
2	4.0125	4.5625
3	4.5000	4.4833
4	4.4533	4.8333

SAT VERBAL (V)

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO        P
TOTAL             1.1461       117.
BETWEEN           2.0244        58.
 GROUPS           1.6088         3.         0.786      0.5097
 ERROR (G)        2.0470        55.
WITHIN            0.2826        59.
 TRIALS           1.5445         1.         6.330      0.0141
 G BY T           0.5705         3.         2.338      0.0823
 ERROR (T)        0.2440        55.

G MEAN              1            2            3          4
               4.0156       3.7719       3.8167     4.2833

T MEAN              1            2
               3.8627       4.0915

G BY T              1            2
     1         3.9375       4.0937
     2         3.5000       4.0437
     3         3.8917       3.7417
     4         4.1467       4.4200
```

```
GROUP 1    16 SUBJECTS.
GROUP 2    14 SUBJECTS.
GROUP 3    18 SUBJECTS.
GROUP 4    18 SUBJECTS.


SCHOOL MOTIVATION (SM)

SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            49.2942      131.

BETWEEN          68.9315       65.

 GROUPS          20.3509        3.        0.285      0.8372

 ERROR (G)       71.2821       62.

WITHIN           29.9545       66.

 TRIALS         189.1211        1.        7.324      0.0086

 G BY T          62.2956        3.        2.412      0.0740

 ERROR (T)       25.8225       62.


G MEAN             1            2            3            4
                22.2500      23.9643      22.2778      23.1389


T MEAN             1            2
                21.6667      24.0606


G BY T             1            2

    1           21.1250      23.3750

    2           24.9286      23.0000

    3           20.3333      24.2222

    4           20.9444      25.3333
```

```
  GROUP 1    19 SUBJECTS.               NONANGLO MALE    HI SHIFT

  GROUP 2    19 SUBJECTS.               NONANGLO MALE    HI...NO SHIFT

  GROUP 3    20 SUBJECTS.               NONANGLO MALE    LO...NO SHIFT

  GROUP 4    20 SUBJECTS.               NONANGLO MALE    LO SHIFT


SCHOOL ANXIETY (SA)

  SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL           283.6190      155.

  BETWEEN         455.0967       77.

   GROUPS        4517.3359        3.       15.555      0.0000

   ERROR (G)      290.4113       74.

  WITHIN          114.3397       78.

   TRIALS         336.1602        1.       17.214      0.0002

   G BY T        2379.0905        3.      121.830      0.0000

   ERROR (T)       19.5280       74.

  G MEAN              1            2           3            4
                  35.7895      39.7632     15.5750      33.4750

  T MEAN              1            2
                  32.4487      29.5128

  G BY T              1            2

     1            27.4211      44.1579

     2            42.7368      36.7895

     3            15.8500      15.3000

     4            44.0500      22.9000
```

SEX-LINKED INTERESTS, ATTITUDES (S)

```
 SOURCE      MEAN SQUARE       D.F.      F-RATIO          P

TOTAL             6.7419       155.

BETWEEN           7.9804        77.

 GROUPS          10.4768         3.        1.330       0.2703

 ERROR (G)        7.8792        74.

WITHIN            5.5192        78.

 TRIALS           0.3141         1.        0.054       0.8114

 G BY T           0.6812         3.        0.118       0.9486

 ERROR (T)        5.7857        74.

G MEAN              1            2            3            4
                 8.9474       9.7632       9.7000      10.2000

T MEAN              1            2
                 9.6154       9.7051

G BY T              1            2
    1            8.8421       9.0526
    2            9.8421       9.6842
    3            9.5000       9.9000
    4           10.2500      10.1500
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
 SOURCE      MEAN SQUARE       D.F.      F-RATIO          P

 TOTAL            5.5932       155.

 BETWEEN          6.0057        77.

  GROUPS          6.0176         3.        1.002       0.3981

  ERROR (G)       6.0053        74.

 WITHIN           5.1859        78.

  TRIALS         12.9808         1.        2.691       0.1012

  G BY T         11.5169         3.        2.387       0.0745

  ERROR (T)       4.8239        74.

 G MEAN             1            2            3            4
                 4.7105       4.4737       4.0000       4.9000
```

```
T MEAN          1          2
           4.8077     4.2308

G BY T          1          2
   1       4.2632     5.1579
   2       4.9474     4.0000
   3       4.2500     3.7500
   4       5.7500     4.0500
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_v)

```
SOURCE     MEAN SQUARE      D.F.      F-RATIO         P

TOTAL          11.9872      155.
BETWEEN        16.9158       77.
 GROUPS        64.1055        3.        4.273     0.0079
 ERROR (G)     15.0027       74.
WITHIN          7.1218       78.
 TRIALS        14.1602        1.        2.108     0.1470
 G BY T        14.7614        3.        2.198     0.0942
 ERROR (T)      6.7170       74.

G MEAN          1          2          3          4
          13.5263    13.6053    10.8750    12.9250

T MEAN          1          2
          12.4103    13.0128

G BY T          1          2
   1      12.3684    14.6842
   2      13.2632    13.9474
   3      10.8500    10.9000
   4      13.2000    12.6500
```

APPROACH STYLE OF DEFENSIVENESS (DA_p)

```
SOURCE     MEAN SQUARE      D.F.      F-RATIO         P

TOTAL          12.3356      155.
BETWEEN        16.1886       77.
```

```
 GROUPS          9.9199        3.          0.603      0.6189

 ERROR (G)      16.4427       74.

WITHIN           8.5321       78.

 TRIALS          4.0063        1.          0.457      0.5082

 G BY T          4.2324        3.          0.483      0.6994

 ERROR (T)       8.7675       74.


G MEAN             1            2            3           4
               13.7368      14.2105      13.0250     13.9000


T MEAN             1            2
               13.8718      13.5513


G BY T             1            2

    1          14.1053      13.3684

    2          14.3158      14.1053

    3          12.7500      13.3000

    4          14.3500      13.4500
```

```
  GROUP 1     13 SUBJECTS.

  GROUP 2     11 SUBJECTS.

  GROUP 3     12 SUBJECTS.

  GROUP 4      9 SUBJECTS.


CTMM NONVERBAL (NV)

  SOURCE      MEAN SQUARE       D.F.      F-RATIO          P

  TOTAL          295.8023        89.

  BETWEEN        516.3956        44.

   GROUPS       1028.7318         3.         2.148     0.1077

   ERROR (G)     478.9076        41.

  WITHIN          80.1111        45.

   TRIALS          4.4453         1.         0.052     0.8148

   G BY T         41.0339         3.         0.484     0.6993

   ERROR (T)      84.8159        41.

  G MEAN          1            2            3            4
               88.8846      81.8182      98.0000      91.6111

  T MEAN          1            2
               89.9111      90.3556

  G BY T          1            2

      1        88.4615      89.3077

      2        79.9091      83.7273

      3        99.3333      96.6667

      4        91.6667      91.5556
```

```
CTMM VERBAL (V)

  SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

  TOTAL          225.3888       89.

  BETWEEN        422.8773       44.

   GROUPS         50.2448        3.        0.112     0.9520

   ERROR (G)     450.1431       41.

  WITHIN          32.2889       45.

   TRIALS        165.3750        1.        5.633     0.0211

   G BY T         27.9688        3.        0.953     0.5741

   ERROR (T)      29.3590       41.

  G MEAN            1            2            3          4
                89.6538      86.2273      88.6667    88.8889

  T MEAN            1            2
                89.7556      87.0444

  G BY T            1            2

      1         92.3846      86.9231

      2         86.6364      85.8182

      3         89.2500      88.0833

      4         90.4444      87.3333
   GROUP 1    18 SUBJECTS.

   GROUP 2    19 SUBJECTS.

   GROUP 3    20 SUBJECTS.

   GROUP 4    20 SUBJECTS.


FEELINGS OF INFERIORITY (FI)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

   TOTAL            2.1837      153.

   BETWEEN          2.4686       76.

    GROUPS          1.1086        3.        0.439      0.7295

    ERROR (G)       2.5244       73.

   WITHIN           1.9026       77.

    TRIALS          2.3442        1.        1.236      0.2692

    G BY T          1.8940        3.        0.998      0.6002

    ERROR (T)       1.8969       73.

   G MEAN             1            2           3           4
                 1.8889       1.6053      1.9250      1.6250

   T MEAN             1            2
                 1.8831       1.6364

   G BY T             1            2

      1          2.0000       1.7778

      2          1.8421       1.3684

      3          2.2500       1.6000

      4          1.4500       1.8000
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

   SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

   TOTAL              3.3250      153.

   BETWEEN            4.5490       76.

    GROUPS            0.0507        3.         0.011        0.9981

    ERROR (G)         4.7339       73.

   WITHIN             2.1169       77.

    TRIALS            0.0260        1.         0.012        0.9100

    G BY T            0.9493        3.         0.433        0.7339

    ERROR (T)         2.1935       73.

   G MEAN              1            2            3            4
                  2.1389       2.0526       2.0750       2.1000

   T MEAN              1            2
                  2.1039       2.0779

   G BY T              1            2

       1          2.1667       2.1111

       2          1.9474       2.1579

       3          2.3000       1.8500

       4          2.0000       2.2000


NEUROTIC SYMPTOMS, SOCIAL (NS)

   SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

   TOTAL              2.6597      153.

   BETWEEN            3.2821       76.

    GROUPS            0.2656        3.         0.078        0.9709

    ERROR (G)         3.4061       73.

   WITHIN             2.0455       77.

    TRIALS            0.0065        1.         0.003        0.9544

    G BY T            1.9515        3.         0.939        0.5720

    ERROR (T)         2.0772       73.

   G MEAN              1            2            3            4
                  2.0833       2.0526       2.0500       1.9000
```

```
T MEAN             1            2
              2.0130       2.0260


G BY T             1            2

    1         1.8889       2.2778

    2         2.0526       2.0526

    3         1.9000       2.2000

    4         2.2000       1.6000
```

DEPRESSION WITH INDEPENDENCE STRIVINGS (DI)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL             3.9355      153.

BETWEEN           5.1531       76.

 GROUPS           3.4623        3.        0.663      0.5810

 ERROR (G)        5.2226       73.

WITHIN            2.7338       77.

 TRIALS           0.3182        1.        0.118      0.7321

 G BY T           4.4264        3.        1.641      0.1860

 ERROR (T)        2.6973       73.

G MEAN             1            2           3           4
              1.6944       1.6842      1.7500      2.3000

T MEAN             1            2
              1.9091       1.8182


G BY T             1            2

    1         1.2778       2.1111

    2         1.8421       1.5263

    3         2.1500       1.3500

    4         2.3000       2.3000
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL             1.7788      153.

BETWEEN           2.1863       76.
```

```
 GROUPS          0.8173       3.         0.364     0.7818

 ERROR (G)       2.2425      73.

WITHIN           1.3766      77.

 TRIALS          5.0909       1.         3.740     0.0539

 G BY T          0.5165       3.         0.379     0.7712

 ERROR (T)       1.3611      73.

G MEAN           1            2          3          4
                 1.9167       1.8947     1.6000     1.8250

T MEAN           1            2
                 1.9870       1.6234

G BY T           1            2

    1            2.0556       1.7778

    2            2.0000       1.7895

    3            1.9500       1.2500

    4            1.9500       1.7000
```

EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)

```
SOURCE      MEAN SQUARE      D.F.       F-RATIO       P

TOTAL            0.4929     153.

BETWEEN          0.6435      76.

 GROUPS          0.7237       3.         1.130     0.3426

 ERROR (G)       0.6402      73.

WITHIN           0.3442      77.

 TRIALS          0.3182       1.         0.902     0.6525

 G BY T          0.1421       3.         0.403     0.7549

 ERROR (T)       0.3528      73.

G MEAN           1            2          3          4
                 1.5278       1.2105     1.2750     1.2750

T MEAN           1            2
                 1.3636       1.2727

G BY T           1            2

    1            1.6667       1.3889
    2          1.2105      1.2105

    3          1.3000      1.2500

    4          1.3000      1.2500


SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)
  SOURCE     MEAN SQUARE      D.F.        F-RATIO        P

  TOTAL           0.5061      153.

  BETWEEN         0.6504       76.

   GROUPS         0.1302        3.         0.194      0.9002

   ERROR (G)      0.6718       73.

  WITHIN          0.3636       77.

   TRIALS         1.6623        1.         4.641      0.0324

   G BY T         0.0625        3.         0.174      0.9131

   ERROR (T)      0.3582       73.

  G MEAN           1           2           3           4
               1.2778      1.2105      1.3000      1.3500

  T MEAN           1           2
               1.3896      1.1818

  G BY T           1           2

    1          1.3889      1.1667

    2          1.2632      1.1579

    3          1.4500      1.1500

    4          1.4500      1.2500



DIFFUSE HYPERACTIVITY (DH)
  SOURCE     MEAN SQUARE      D.F.        F-RATIO        P

  TOTAL           0.8487      153.

  BETWEEN         1.0046       76.

   GROUPS         0.2789        3.         0.270      0.8483

   ERROR (G)      1.0344       73.

  WITHIN          0.6948       77.

   TRIALS         0.5260        1.         0.757      0.6088
```

```
 G BY T            0.7545        3.        1.086     0.3609

 ERROR (T)         0.6947       73.

G MEAN               1           2           3           4
                   1.3056      1.5000      1.4750      1.4500

T MEAN               1           2
                   1.3766      1.4935


G BY T               1           2

     1             1.2778      1.3333

     2             1.5789      1.4211

     3             1.4500      1.5000

     4             1.2000      1.7000
```

```
GROUP 1    15 SUBJECTS.            NONANGLO MALE   HI SHIFT
GROUP 2    17 SUBJECTS.            NONANGLO MALE   HI...NO SHIFT
GROUP 3    18 SUBJECTS.            NONANGLO MALE   LO...NO SHIFT
GROUP 4    16 SUBJECTS.            NONANGLO MALE   LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P
TOTAL             6.7902      131.
BETWEEN          10.4233       65.
 GROUPS           7.3143        3.        0.692      0.5638
 ERROR (G)       10.5737       62.
WITHIN            3.2121       66.
 TRIALS           0.7576        1.        0.239      0.6323
 G BY T           4.8637        3.        1.533      0.2135
 ERROR (T)        3.1718       62.

G MEAN              1            2            3           4
               10.9333      10.3529      11.4722     10.9688

T MEAN              1            2
               11.0152      10.8636

G BY T              1            2
     1         10.7333      11.1333
     2         10.2941      10.4118
     3         11.3889      11.5556
     4         11.6250      10.3125
```

```
GROUP 1    18 SUBJECTS.              NONANGLO MALE   HI SHIFT

GROUP 2    19 SUBJECTS.              NONANGLO MALE   HI...NO SHIFT

GROUP 3    20 SUBJECTS.              NONANGLO MALE   LO...NO SHIFT

GROUP 4    20 SUBJECTS.              NONANGLO MALE   LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE     D.F.     F-RATIO       P

TOTAL            0.0315     153.

BETWEEN          0.0482      76.

 GROUPS          0.0052       3.       0.103     0.9570

 ERROR (G)       0.0500      73.

WITHIN           0.0151      77.

 TRIALS          0.0097       1.       0.625     0.5625

 G BY T          0.0074       3.       0.481     0.7005

 ERROR (T)       0.0155      73.

G MEAN          1           2           3           4
           1.1972      1.2218      1.1985      1.2002

T MEAN          1           2
           1.1965      1.2123

G BY T          1           2

    1      1.1783      1.2161

    2      1.2021      1.2416

    3      1.2080      1.1890

    4      1.1960      1.2045
```

PEER REJECTION

```
SOURCE       MEAN SQUARE     D.F.       F-RATIO         P

TOTAL             0.0327     153.

BETWEEN           0.0435      76.

 GROUPS           0.0372       3.         0.851      0.5267

 ERROR (G)        0.0437      73.

WITHIN            0.0220      77.

 TRIALS           0.0823       1.         3.869      0.0501

 G BY T           0.0205       3.         0.962      0.5829

 ERROR (T)        0.0213      73.

G MEAN              1          2          3          4
                 1.2519     1.1889     1.2502     1.2520


T MEAN              1          2
                 1.2129     1.2591


G BY T              1          2

     1           1.2394     1.2644

     2           1.1937     1.1842

     3           1.2140     1.2865

     4           1.2060     1.2980
```

TABLE 30.

T X S ANALYSES OF VARIANCE FOR NONANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_3 AND T_4

```
GROUP 1    13 SUBJECTS.             NONANGLO MALE   HI SHIFT

GROUP 2    10 SUBJECTS.             NONANGLO MALE   HI...NO SHIFT

GROUP 3    15 SUBJECTS.             NONANGLO MALE   LO...NO SHIFT

GROUP 4    14 SUBJECTS.             NONANGLO MALE   LO SHIFT


PRONENESS TOWARD NEUROTICISM (PTN)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            9.0616      103.

   BETWEEN         12.0656       51.

    GROUPS         31.0666        3.        2.856      0.0459

    ERROR (G)      10.8781       48.

   WITHIN           6.1154       52.

    TRIALS          6.5000        1.        1.159      0.2869

    G BY T         14.1362        3.        2.522      0.0678

    ERROR (T)       5.6061       48.


   G MEAN            1          2           3            4
                10.2692    10.3000      8.0667       8.9643


   T MEAN            1          2
                 9.5385     9.0385


   G BY T            1          2

       1         9.6923    10.8462

       2        10.0000    10.6000

       3         8.8000     7.3333

       4         9.8571     8.0714
```

TABLE 30.

T X S ANALYSES OF VARIANCE FOR NONANGLO MALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_3 AND T_4

```
GROUP 1     9 SUBJECTS.                 NONANGLO MALE   HI SHIFT

GROUP 2    15 SUBJECTS.                 NONANGLO MALE   HI...NO SHIFT

GROUP 3    18 SUBJECTS.                 NONANGLO MALE   LO...NO SHIFT

GROUP 4    17 SUBJECTS.                 NONANGLO MALE   LO SHIFT


BY NONVERBAL (NV)

SOURCE       MEAN SQUARE      D.F.       F-RATIO        P

TOTAL             0.4695      117.

BETWEEN           0.6730       58.

 GROUPS           0.3056        3.         0.441     0.7284

 ERROR (G)        0.6930       55.

WITHIN            0.2695       59.

 TRIALS           8.0393        1.        58.726     0.0000

 G BY T           0.1104        3.         0.806     0.5015

 ERROR (T)        0.1369       55.

G MEAN              1           2            3           4
               4.7833      4.8967       5.0306      4.8559


T MEAN              1           2
               4.6475      5.1695


G BY T              1           2

     1         4.4889      5.0778

     2         4.5667      5.2267

     3         4.7778      5.2833

     4         4.6647      5.0471
```

```
[illegible] VERBAL (V)

 SOURCE       MEAN SQUARE      D.F.      F-RATIO         P

 TOTAL             1.5980      117.

 BETWEEN           2.7073       58.

  GROUPS           1.1946        3.        0.428      0.7373

  ERROR (G)        2.7898       55.

 WITHIN            0.5075       59.

  TRIALS          19.7702        1.      107.554      0.0000

  G BY T           0.0215        3.        0.117      0.9490

  ERROR (T)        0.1838       55.

 G MEAN               1          2           3          4
                   4.3000     4.3467      4.7444     4.4853

 T MEAN               1          2
                   4.0915     4.9102

 G BY T               1          2

     1             3.8667     4.7333

     2             3.9400     4.7533

     3             4.3667     5.1222

     4             4.0529     4.9176
```

```
GROUP 1     14 SUBJECTS.

GROUP 2     12 SUBJECTS.

GROUP 3     16 SUBJECTS.

GROUP 4     14 SUBJECTS.


SCHOOL MOTIVATION (SM)

SOURCE      MEAN SQUARE      D.F.      F-RATIO          P

TOTAL           63.5894      111.

BETWEEN         94.5896       55.

 GROUPS        113.5892        3.        1.215     0.3132

 ERROR (G)      93.4935       52.

WITHIN          33.1429       56.

 TRIALS         89.2852        1.        2.877     0.0921

 G BY T         50.9466        3.        1.642     0.1898

 ERROR (T)      31.0361       52.

G MEAN             1          2           3          4
              23.1071    25.8750     27.8750    25.5714

T MEAN             1          2
              26.5714    24.7857

G BY T             1          2

    1         25.8571    20.3571

    2         26.0000    25.7500

    3         27.6250    28.1250

    4         26.5714    24.5714
```

```
GROUP 1     20 SUBJECTS.          NONANGLO MALE   HI SHIFT

GROUP 2     19 SUBJECTS.          NONANGLO MALE   HI...NO SHIFT

GROUP 3     20 SUBJECTS.          NONANGLO MALE   LO...NO SHIFT

GROUP 4     19 SUBJECTS.          NONANGLO MALE   LO SHIFT


 S ANXIETY (SA)

SOURCE      MEAN SQUARE     D.F.      F-RATIO       P

TOTAL          275.7663     155.

BETWEEN        434.5944      77.

 GROUPS       4368.5540       3.       15.879     0.0000

 ERROR (G)     275.1096      74.

WITHIN         118.9744      78.

 TRIALS        339.1025       1.       10.553     0.0021

 G BY T       2187.6670       3.       68.080     0.0000

 ERROR (T)      32.1337      74.

G MEAN             1           2           3           4
               26.4500     40.1842     14.8500     31.4474

T MEAN             1           2
               29.5128     26.5641

G BY T             1           2

   1           18.5000     34.4000

   2           42.3158     38.0526

   3           16.7000     13.0000

   4           41.7895     21.1053
```

[illegible] LINKED INTERESTS, ATTITUDES (S)

```
SOURCE       MEAN SQUARE      D.F.       F-RATIO        P

TOTAL             7.0377      155.

BETWEEN           9.2252       77.

 GROUPS          25.4851        3.         2.975      0.0363

 ERROR (G)        8.5660       74.

WITHIN            4.8782       78.

 TRIALS          10.7756        1.         2.194      0.1390

 G BY T           2.0905        3.         0.426      0.7389

 ERROR (T)        4.9115       74.

G MEAN                 1         2            3          4
                 10.4000   10.2895      10.4000     8.7368

T MEAN                 1         2
                  9.7051   10.2308

G BY T                 1         2

    1            10.4500   10.3500

    2             9.8947   10.6842

    3            10.1500   10.6500

    4             8.2632    9.2105
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
SOURCE       MEAN SQUARE      D.F.       F-RATIO        P

TOTAL             7.7628      155.

BETWEEN           9.7303       77.

 GROUPS           3.8607        3.         0.387      0.7657

 ERROR (G)        9.9682       74.

WITHIN            5.8205       78.

 TRIALS          33.2308        1.         6.169      0.0146

 G BY T           7.3770        3.         1.369      0.2578

 ERROR (T)        5.3870       74.

G MEAN                 1         2            3          4
                  5.0750    4.8158       4.4500     4.4211
```

```
T MEAN          1           2
             4.2308      5.1538

G BY T          1           2

    1        4.3500      5.8000

    2        4.0000      5.6316

    3        4.0000      4.9000

    4        4.5789      4.2632
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA$_V$)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO         P

TOTAL           13.9485     155.

BETWEEN         20.4613      77.

 GROUPS        124.0677       3.        7.630      0.0003

 ERROR (G)      16.2610      74.

WITHIN           7.5192      78.

 TRIALS          7.8525       1.        1.152      0.2865

 G BY T         24.7666       3.        3.634      0.0165

 ERROR (T)       6.8155      74.

G MEAN          1           2           3           4
             11.9000     14.6316     10.8000     13.9737

T MEAN          1           2
             13.0128     12.5641

G BY T          1           2

    1       11.1000     12.7000

    2       14.6842     14.5789

    3       11.8000      9.8000

    4       14.6316     13.3158
```

APPROACH STYLE OF DEFENSIVENESS (DA$_P$)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO         P

TOTAL           13.1588     155.

BETWEEN         15.3261      77.
```

```
 GROUPS        29.0846         3.         1.969      0.1246

 ERROR (G)     14.7683        74.

WITHIN         11.0192        78.

 TRIALS         8.7756         1.         0.831      0.6321

 G BY T        23.1563         3.         2.193      0.0946

 ERROR (T)     10.5575        74.

G MEAN            1            2            3            4
              13.4750      13.8158      12.0750      13.9474

T MEAN            1            2
              13.5513      13.0769

G BY T            1            2

    1         13.3500      13.6000

    2         13.9474      13.6842

    3         13.4000      10.7500

    4         13.5263      14.3684
```

```
  GROUP 1    12 SUBJECTS.

  GROUP 2    14 SUBJECTS.

  GROUP 3     9 SUBJECTS.

  GROUP 4    10 SUBJECTS.


CTMM NONVERBAL (NV)

  SOURCE      MEAN SQUARE      D.F.     F-RATIO        P

  TOTAL          244.9190       89.

  BETWEEN        374.3247       44.

   GROUPS        331.5990        3.        0.879      0.5375

   ERROR (G)     377.4510       41.

  WITHIN         118.3889       45.

   TRIALS       1480.2734        1.       16.981      0.0004

   G BY T         91.0234        3.        1.044      0.3842

   ERROR (T)      87.1745       41.

  G MEAN            1           2           3           4
               97.1250     89.5357     95.5556     96.9500

  T MEAN            1           2
               90.3356     98.4667


  G BY T            1           2

      1        93.2500    101.0000

      2        83.0714     96.0000

      3        92.7778     98.3333

      4        94.9000     99.0000
```

CTMM VERBAL (V)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO         P

TOTAL          236.6044       89.

BETWEEN        405.3475       44.

 GROUPS        270.1276        3.        0.651      0.5907

  ERROR (G)    415.2416       41.

WITHIN          71.6111       45.

 TRIALS        504.0938        1.        8.247      0.0065

  G BY T        70.8021        3.        1.158      0.3373

  ERROR (T)     61.1220       41.

G MEAN            1            2           3            4
              91.8333      91.0000     89.7778      83.9500

T MEAN            1            2
              87.0444      91.7778

G BY T            1            2

     1        90.9167      92.7500

     2        86.7143      95.2857

     3        89.1111      90.4444

     4        81.0000      86.9000
```

```
GROUP 1    20 SUBJECTS.

GROUP 2    19 SUBJECTS.

GROUP 3    20 SUBJECTS.

GROUP 4    18 SUBJECTS.

FEELINGS OF INFERIORITY (FI)

SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

TOTAL            2.3535      153.

BETWEEN          3.5208       76.

 GROUPS          2.1558        3.        0.603     0.6193

 ERROR (G)       3.5769       73.

WITHIN           1.2013       77.

 TRIALS          1.4610        1.        1.206     0.2751

 G BY T          0.8761        3.        0.723     0.5443

 ERROR (T)       1.2111       73.

G MEAN           1           2           3           4
            1.6750      2.0526      1.7250      1.4722

T MEAN           1           2
            1.6364      1.8312

G BY T           1           2
  1         1.6500      1.7000
  2         1.7368      2.3684
  3         1.7500      1.7000
  4         1.3889      1.5556
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

    SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

    TOTAL            2.7120     153.

    BETWEEN          3.6769      76.

     GROUPS          1.2687       3.       0.336      0.8018

     ERROR (G)       3.7758      73.

    WITHIN           1.7597      77.

     TRIALS          1.4610       1.       0.796      0.6213

     G BY T          0.0317       3.       0.017      0.9965

     ERROR (T)       1.8348      73.

    G MEAN           1             2           3          4
                 1.9500       1.8158      1.9250     2.2500

    T MEAN           1             2
                 2.0779       1.8831

    G BY T           1             2

       1         2.0500       1.8500

       2         1.8947       1.7368

       3         2.0000       1.8500

       4         2.3889       2.1111


NEUROTIC SYMPTOMS, SOCIAL (NS)

    SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

    TOTAL            2.3136     153.

    BETWEEN          3.3418      76.

     GROUPS          5.1014       3.       1.560      0.2050

     ERROR (G)       3.2694      73.

    WITHIN           1.2987      77.

     TRIALS          0.2338       1.       0.188      0.6701

     G BY T          2.9388       3.       2.359      0.0773

     ERROR (T)       1.2459      73.

    G MEAN           1             2           3          4
                 1.8250       1.5526      2.2500     2.3333
```

```
T MEAN              1          2
               2.0260     1.9481

G BY T              1          2
   1           1.6500     2.0000
   2           1.8947     1.2105
   3           2.0500     2.4500
   4           2.5556     2.1111
```

DEPRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE      MEAN SQUARE      D.F.       F-RATIO          P

TOTAL            3.1023      153.

BETWEEN          4.6205       76.

 GROUPS          1.3799        3.         0.290     0.8339

 ERROR (G)       4.7536       73.

WITHIN           1.6039       77.

 TRIALS          0.5260        1.         0.329     0.5747

 G BY T          2.1386        3.         1.339     0.2673

 ERROR (T)       1.5967       73.

G MEAN              1          2            3          4
               1.8000     1.6842       1.9000     2.1389

T MEAN              1          2
               1.8182     1.9351

G BY T              1          2
   1           1.9000     1.7000
   2           1.8421     1.5263
   3           1.7500     2.0500
   4           1.7778     2.5000
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE      MEAN SQUARE      D.F.       F-RATIO          P

TOTAL            2.3995      153.

BETWEEN          3.2056       76.
```

```
  GROUPS          5.5731        3.         1.793      0.1547

  ERROR (G)       3.1083       73.

 WITHIN           1.6039       77.

  TRIALS         10.9156        1.         8.058      0.0060

  G BY T          4.5656        3.         3.370      0.0226

  ERROR (T)       1.3546       73.

 G MEAN           1            2           3           4
                  1.9750       1.6053      1.6000      2.4167

 T MEAN           1            2
                  1.6234       2.1558

 G BY T           1            2
    1             1.5500       2.4000
    2             1.6316       1.5789
    3             1.6000       1.6000
    4             1.7222       3.1111


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
 SOURCE      MEAN SQUARE      D.F.      F-RATIO          P

 TOTAL            0.5845      153.

 BETWEEN          0.5846       76.

  GROUPS          0.1849        3.         0.308      0.8218

  ERROR (G)       0.6010       73.

 WITHIN           0.5844       77.

  TRIALS          0.0260        1.         0.044      0.8284

  G BY T          0.7024        3.         1.196      0.3170

  ERROR (T)       0.5872       73.

 G MEAN           1            2           3           4
                  1.2750       1.2632      1.2250      1.3889

 T MEAN           1            2
                  1.2727       1.2987

 G BY T.          1            2
    1             1.3500       1.2000
    2          1.3158     1.2105

    3          1.2500     1.2000

    4          1.1667     1.6111
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            0.3598      153.

BETWEEN          0.5467       76.

 GROUPS          0.3257        3.        0.586      0.6302

 ERROR (G)       0.5557       73.

WITHIN           0.1753       77.

 TRIALS          0.3182        1.        1.826      0.1775

 G BY T          0.1550        3.        0.889      0.5469

 ERROR (T)       0.1742       73.

G MEAN             1           2           3          4
               1.2750      1.2632      1.2750     1.0833

T MEAN             1           2
               1.1818      1.2727

G BY T             1           2

    1          1.2500      1.3000

    2          1.2105      1.3158

    3          1.1500      1.4000

    4          1.1111      1.0556
```

DIFFUSE HYPERACTIVITY (DH)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            0.9287      153.

BETWEEN          1.1524       76.

 GROUPS          0.4156        3.        0.351      0.7909

 ERROR (G)       1.1827       73.

WITHIN           0.7078       77.

 TRIALS          0.5260        1.        0.727      0.5990
 G BY T          0.3969       3.        0.549     0.6546

 ERROR (T)       0.7231      73.

G MEAN             1            2             3          4
                1.6250       1.4737        1.6500     1.4444

T MEAN             1            2
                1.4935       1.6104

G BY T             1            2

    1           1.7000       1.5500

    2           1.3158       1.6316

    3           1.6000       1.7000

    4           1.3333       1.5556
```

```
GROUP 1    17 SUBJECTS.              NONANGLO MALE   HI SHIFT
GROUP 2    17 SUBJECTS.              NONANGLO MALE   HI...NO SHIFT
GROUP 3    17 SUBJECTS.              NONANGLO MALE   LO...NO SHIFT
GROUP 4    15 SUBJECTS.              NONANGLO MALE   LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
TOTAL            6.9273      131.
BETWEEN         11.9689       65.
 GROUPS          2.9740        3.        0.240      0.8689
 ERROR (G)      12.4041       62.
WITHIN           1.9621       66.
 TRIALS         24.6135        1.       15.078      0.0005
 G BY T          1.2249        3.        0.750      0.5292
 ERROR (T)       1.6325       62.

G MEAN            1            2            3            4
               11.0294      11.0588      11.5882      11.5333

T MEAN            1            2
               10.8636      11.7273

G BY T            1            2
    1          10.7059      11.3529
    2          10.4706      11.6471
    3          11.0000      12.1765
    4          11.3333      11.7333
 GROUP 1    15 SUBJECTS.

 GROUP 2    15 SUBJECTS.

 GROUP 3     8 SUBJECTS.

 GROUP 4    12 SUBJECTS.

PEER ACCEPTANCE

 SOURCE      MEAN SQUARE       D.F.      F-RATIO        P

 TOTAL            0.0759        99.

 BETWEEN          0.0956        49.

  GROUPS          0.0228         3.        0.227     0.8775

  ERROR (G)       0.1003        46.

 WITHIN           0.0566        50.

  TRIALS          0.4032         1.        7.904     0.0072

  G BY T          0.0262         3.        0.513     0.6796

  ERROR (T)       0.0510        46.

 G MEAN           1          2          3          4
               1.2457     1.2967     1.2300     1.2417

 T MEAN           1          2
               1.1940     1.3210

 G BY T           1          2

     1         1.1467     1.3447

     2         1.2620     1.3313

     3         1.1950     1.2650

     4         1.1675     1.3158
```

PEER REJECTION

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO         P

TOTAL             0.0728        99.

BETWEEN           0.1143        49.

 GROUPS           0.0365         3.         0.306       0.8226

 ERROR (G)        0.1194        46.

WITHIN            0.0322        50.

 TRIALS           0.0146         1.         0.436       0.5191

  G BY T          0.0168         3.         0.502       0.6871

 ERROR (T)        0.0336        46.

G MEAN              1            2            3            4
                 1.2807       1.2497       1.2062       1.3058

T MEAN              1            2
                 1.2534       1.2776

G BY T              1            2

     1           1.2573       1.3040

     2           1.2140       1.2853

     3           1.2100       1.2025

     4           1.3267       1.2850
  GROUP 1     15 SUBJECTS.

  GROUP 2     11 SUBJECTS.

  GROUP 3     14 SUBJECTS.

  GROUP 4     12 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL           10.8783       103.

  BETWEEN         16.2836        51.

   GROUPS         31.4559         3.        2.051      0.1179

   ERROR (G)      15.3353        48.

  WITHIN           5.5769        52.

   TRIALS          5.5385         1.        1.101      0.2997

   G BY T         14.3356         3.        2.850      0.0462

   ERROR (T)       5.0303        48.

  G MEAN             1            2            3            4
                  8.5333      11.0455       8.7143       9.2083

  T MEAN             1            2
                  9.0385       9.5000

  G BY T             1            2

      1           7.4667       9.6000

      2          11.3636      10.7273

      3           8.2857       9.1429

      4           9.7500       8.6667
```

TABLE 31.

T X S ANALYSES OF VARIANCE FOR
NONANGLO FEMALES CLASSIFIED BY SHIFT
IN SCHOOL ANXIETY BETWEEN T_1 AND T_2

```
    GROUP 1     15 SUBJECTS.              NONANGLO FEMALE   HI SHIFT
    GROUP 2     16 SUBJECTS.              NONANGLO FEMALE   HI...NO SHIFT
    GROUP 3     14 SUBJECTS.              NONANGLO FEMALE   LO...NO SHIFT
    GROUP 4     17 SUBJECTS.              NONANGLO FEMALE   LO SHIFT


MAT NONVERBAL (NV)
    SOURCE      MEAN SQUARE      D.F.      F-RATIO          P
    TOTAL            0.7143      123.
    BETWEEN          0.6978       61.
     GROUPS          0.3010        3.        0.419      0.7436
     ERROR (G)       0.7183       58.
    WITHIN           0.7306       62.
     TRIALS         36.0936        1.      231.299      0.0000
     G BY T          0.0501        3.        0.321      0.8121
     ERROR (T)       0.1560       58.

    G MEAN              1            2            3            4
                   3.7400       3.6094       3.8429       3.7824

    T MEAN              1            2
                   3.2016       4.2806

    G BY T              1            2
         1         3.2133       4.2667
         2         3.1062       4.1125
         3         3.2429       4.4429
         4         3.2471       4.3176
```

MAT VERBAL (V)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL          0.8953        123.

BETWEEN        1.2952         61.

 GROUPS        2.4822          3.       2.012       0.1210

 ERROR (G)     1.2338         58.

WITHIN         0.5019         62.

 TRIALS       19.9201          1.     107.363       0.0000

 G BY T        0.1444          3.       0.779       0.5135

 ERROR (T)     0.1855         58.

G MEAN           1            2           3           4
               3.5700       3.4312      4.0679      3.4853

T MEAN           1            2
               3.2226       4.0242

G BY T           1            2

    1          3.1200       4.0200

    2          3.1000       3.7625

    3          3.5929       4.5429

    4          3.1235       3.8471
```

```
GROUP 1    20 SUBJECTS.          NONANGLO FEMALE   HI SHIFT
GROUP 2    20 SUBJECTS.          NONANGLO FEMALE   HI...NO SHIFT
GROUP 3    19 SUBJECTS.          NONANGLO FEMALE   LO...NO SHIFT
GROUP 4    20 SUBJECTS.          NONANGLO FEMALE   LO SHIFT
TOTAL =    79 SUBJECTS.

DEGREES OF FREEDOM

    3 AND    75 FOR GROUPS.
    1 AND    75 FOR TREATMENTS.
    3 AND    75 FOR INTERACTION.
```

SCHOOL ANXIETY (SA)

```
GROUPS F RATIO =  17.601      P = .0000
MEANS.         41.7000    59.1250    33.7632    36.0250
TREATMENTS F RATIO =  53.272      P = .0000
MEANS.         45.4937    40.0380
INTERACTION F RATIO = 105.431      P = .0000
GROUP  1       35.1000    48.3000
GROUP  2       62.1000    56.1500
GROUP  3       36.2105    31.3158
GROUP  4       48.1000    23.9500
```

SEX-LINKED INTERESTS, ATTITUDES (S)

```
GROUPS F RATIO =   2.642      P = .0544
MEANS.          4.4000     4.3750     5.7105     5.1500
TREATMENTS F RATIO =   1.783      P = .1827
```

```
MEANS.          4.6835      5.1139

INTERACTION F RATIO =     .480       P = .7013

GROUP  1        4.3500      4.4500

GROUP  2        4.3500      4.4000

GROUP  3        5.2105      6.2105

GROUP  4        4.8500      5.4500
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
GROUPS F RATIO =     .614       P = .6117

MEANS.          3.7750      4.4000       3.9737      4.0500

TREATMENTS F RATIO =    4.075       P = .0444

MEANS.          3.7468      4.3544

INTERACTION F RATIO =     .099       P = .9594

GROUP  1        3.6000      3.9500

GROUP  2        4.0500      4.7500

GROUP  3        3.5789      4.3684

GROUP  4        3.7500      4.3500
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA$_V$)

```
GROUPS F RATIO =    2.791       P = .0453

MEANS.         13.6500     15.0750      13.0263     13.3750

TREATMENTS F RATIO =    4.025       P = .0457

MEANS.         14.1772     13.4051

INTERACTION F RATIO =    8.835       P = .0001

GROUP  1       12.6000     14.7000

GROUP  2       15.8000     14.3500

GROUP  3       13.2105     12.8421

GROUP  4       15.0500     11.7000
```

APPROACH STYLE OF DEFENSIVENESS (DA$_P$)

```
GROUPS F RATIO =    1.038       P = .3818

MEANS.         15.1500     16.0500      15.0789     14.7000
```

```
TREATMENTS F RATIC =     .021      P = .8799
MEANS.        15.2785    15.2152
INTERACTICN F RATIC =    3.503      P = .0191
GROUP  1      14.2000    16.1000
GROUP  2      16.4000    15.7000
GROUP  3      14.8421    15.3158
GROUP  4      15.6500    13.7500
```

```
    GROUP 1    10 SUBJECTS.
    GROUP 2    13 SUBJECTS.
    GROUP 3     9 SUBJECTS.
    GROUP 4    12 SUBJECTS.

CTMM NONVERBAL (NV)

    SOURCE       MEAN SQUARE      D.F.      F-RATIO         P

    TOTAL           265.4227       87.

    BETWEEN         429.4133       43.

     GROUPS         200.8802        3.        0.450      0.7225

     ERROR (G)      446.5533       40.

    WITHIN          105.1591       44.

     TRIALS        1854.7266        1.       28.607      0.0000

     G BY T          59.6406        3.        0.920      0.5580

     ERROR (T)       64.8338       40.

    G MEAN              1           2           3           4
                    92.1500     88.2692     90.1667     85.0417

    T MEAN              1           2
                    84.0682     93.2500

    G BY T              1           2

        1           90.0000     94.3000

        2           83.6923     92.8462

        3           84.6667     95.6667

        4           79.0833     91.0000
```

CTMM VERBAL (V)

```
SOURCE        MEAN SQUARE        D.F.      F-RATIO          P

TOTAL            159.6134         87.

BETWEEN          293.7062         43.

 GROUPS          101.4688          3.        0.329      0.8064

 ERROR (G)       308.1240         40.

WITHIN            28.5682         44.

 TRIALS          100.4063          1.        3.675      0.0593

 G BY T           21.2083          3.        0.776      0.5169

 ERROR (T)        27.3242         40.


G MEAN              1             2            3            4
                 91.7500       89.9615      91.3889      87.0417


T MEAN              1             2
                 88.7955       90.9318


G BY T              1             2

    1            91.3000       92.2000

    2            87.6923       92.2308

    3            91.3333       91.4444

    4            86.0000       88.0833
```

```
GROUP 1     17 SUBJECTS.

GROUP 2     19 SUBJECTS.

GROUP 3     15 SUBJECTS.

GROUP 4     18 SUBJECTS.
```

GRADE POINT AVERAGE (GPA)

```
SOURCE        MEAN SQUARE      D.F.       F-RATIO          P

TOTAL             10.5741      137.

BETWEEN           19.3551       68.

 GROUPS           46.3417        3.         2.559       0.0615

 ERROR (G)        18.1095       65.

WITHIN             1.9203       69.

 TRIALS           36.5291        1.        27.117       0.0000

 G BY T            2.8030        3.         2.081       0.1100

 ERROR (T)         1.3471       65.

G MEAN              1           2            3            4
               10.8824     10.4737      12.7333      12.5833

T MEAN              1           2
               11.1014     12.1304

G BY T              1           2

     1         10.7647     11.0000

     2          9.6842     11.2632

     3         12.2000     13.2667

     4         12.0000     13.1667
```

```
GROUP 1    13 SUBJECTS.

GROUP 2    15 SUBJECTS.

GROUP 3    14 SUBJECTS.

GROUP 4    15 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO         P

TOTAL           45.3374       113.

BETWEEN         70.9843        56.

 GROUPS          1.4010         3.        0.019       0.9961

 ERROR (G)      74.9230        53.

WITHIN          20.1404        57.

 TRIALS         20.2100         1.        0.982       0.6728

 G BY T         12.4134         3.        0.603       0.6197

 ERROR (T)      20.5764        53.

G MEAN             1           2           3           4
               26.4615     26.3000     25.9286     26.3000

T MEAN             1           2
               25.8246     26.6667

G BY T             1           2

    1          26.2308     26.6923

    2          26.2667     26.3333

    3          25.9286     25.9286

    4          24.9333     27.6667
    GROUP 1     20 SUBJECTS.

    GROUP 2     20 SUBJECTS.

    GROUP 3     19 SUBJECTS.

    GROUP 4     20 SUBJECTS.

FEELINGS OF INFERIORITY (FI)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            0.7061      157.

    BETWEEN          0.7803       78.

     GROUPS          0.0308        3.        0.038      0.9895

     ERROR (G)       0.8102       75.

    WITHIN           0.6329       79.

     TRIALS          0.9114        1.        1.419      0.2355

     G BY T          0.3032        3.        0.472      0.7068

     ERROR (T)       0.6424       75.

    G MEAN             1            2          3           4
                   1.2500       1.2000     1.2632      1.2500

    T MEAN             1            2
                   1.1646       1.3165

    G BY T             1            2

       1           1.1000       1.4000

       2           1.1000       1.3000

       3           1.1579       1.3684

       4           1.3000       1.2000
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            0.8124      157.

   BETWEEN          0.8788       78.

    GROUPS          1.6306        3.        1.921      0.1320

    ERROR (G)       0.8487       75.

   WITHIN           0.7468       79.

    TRIALS          0.1013        1.        0.135      0.7152

    G BY T          0.9066        3.        1.210      0.3115

    ERROR (T)       0.7491       75.

   G MEAN             1           2           3           4
                  1.2000      1.6000      1.1579      1.4000

   T MEAN             1           2
                  1.3165      1.3671

   G BY T             1           2
       1          1.1000      1.3000
       2          1.5000      1.7000
       3          1.0526      1.2632
       4          1.6000      1.2000


NEUROTIC SYMPTOMS, SOCIAL (NS)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            0.6032      157.

   BETWEEN          0.2014       78.

    GROUPS          0.0389        3.        0.187      0.9046

    ERROR (G)       0.2079       75.

   WITHIN           1.0000       79.

    TRIALS         63.2911        1.      304.438      0.0000

    G BY T          0.0389        3.        0.187      0.9046

    ERROR (T)       0.2079       75.

   G MEAN             1           2           3           4
                  0.6250      0.6000      0.6316      0.6750
```

```
T MEAN             1          2
              1.2658     0.0000

G BY T             1          2
    1         1.2500    -0.0000
    2         1.2000    -0.0000
    3         1.2632    -0.0000
    4         1.3500    -0.0000


REGRESSION WITH INDEPENDENCE STRIVINGS (AI)
SOURCE      MEAN SQUARE        D.F.      F-RATIO          P

TOTAL            0.5120        157.

BETWEEN          0.6908         78.

 GROUPS          0.4388          3.        0.626     0.6043

 ERROR (G)       0.7009         75.

WITHIN           0.3354         79.

 TRIALS          0.3101          1.        0.895     0.6508

 G BY T          0.0716          3.        0.207     0.8915

 ERROR (T)       0.3463         75.

G MEAN             1          2             3          4
              1.1250     1.2000        1.0526     1.3000

T MEAN             1          2
              1.1266     1.2152

G BY T             1          2
    1         1.1000     1.1500
    2         1.1000     1.3000
    3         1.0526     1.0526
    4         1.2500     1.3500


ACTIVE WITHDRAWAL (AW)

SOURCE      MEAN SQUARE        D.F.      F-RATIO          P

TOTAL            0.6381        157.

BETWEEN          0.8100         78.
```

```
  GROUPS          0.2832        3.           0.341        0.7984

  ERROR (G)       0.8310       75.

 WITHIN           0.4684       79.

  TRIALS          0.4051        1.           0.906        0.6536

  G BY T          1.0154        3.           2.270        0.0860

  ERROR (T)       0.4473       75.

 G MEAN             1             2            3            4
                 1.2500        1.2500       1.3421       1.4250

 T MEAN             1             2
                 1.3671        1.2658

 G BY T             1             2
     1           1.2500        1.2500
     2           1.1500        1.3500
     3           1.3684        1.3158
     4           1.7000        1.1500


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
 SOURCE      MEAN SQUARE        D.F.       F-RATIO          P

 TOTAL            0.8018      157.

 BETWEEN          0.8767       78.

  GROUPS          0.6257        3.           0.706        0.5548

  ERROR (G)       0.8867       75.

 WITHIN           0.7278       79.

  TRIALS          0.5127        1.           0.712        0.5939

  G BY T          0.9984        3.           1.387        0.2523

  ERROR (T)       0.7199       75.

 G MEAN             1             2            3            4
                 1.2500        1.4750       1.3421       1.5250

 T MEAN             1             2
                 1.3418        1.4557

 G BY T             1             2
     1           1.1500        1.3500
```

```
      2           1.3000      1.6500

      3           1.2105      1.4737

      4           1.7000      1.3500

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            0.4470      157.

    BETWEEN          0.5985       78.

     GROUPS          0.7471        3.        1.261      0.2933

     ERROR (G)       0.5926       75.

    WITHIN           0.2975       79.

     TRIALS          0.0063        1.        0.022      0.8774

     G BY T          0.6067        3.        2.099      0.1061

     ERROR (T)       0.2890       75.

    G MEAN            1           2           3           4
                  1.2000      1.4000      1.1316      1.4000

    T MEAN            1           2
                  1.2785      1.2911

    G BY T            1           2

      1           1.0500      1.3500

      2           1.4000      1.4000

      3           1.1053      1.1579

      4           1.5500      1.2500


DIFFUSE HYPERACTIVITY (DH)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL            0.3643      157.

    BETWEEN          0.0665       78.

     GROUPS          0.0400        3.        0.592      0.6259

     ERROR (G)       0.0676       75.

    WITHIN           0.6582       79.

     TRIALS         46.8101        1.      692.493      0.0000
```

```
 G BY T           0.0400        3.         0.592      0.6259

 ERROR (T)        0.0676       75.

G MEAN              1           2            3          4
                 0.5000      0.5500       0.5526     0.5750

T MEAN              1           2
                 1.0886      0.0000

G BY T              1           2

    1            1.0000     -0.0000

    2            1.1000     -0.0000

    3            1.1053     -0.0000

    4            1.1500     -0.0000
```

```
GROUP 1    20 SUBJECTS.              NONANGLO FEMALE   HI SHIFT
GROUP 2    20 SUBJECTS.              NONANGLO FEMALE   HI...NO SHIFT
GROUP 3    18 SUBJECTS.              NONANGLO FEMALE   LO...NO SHIFT
GROUP 4    18 SUBJECTS.              NONANGLO FEMALE   LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO       P
TOTAL             0.0331      151.
BETWEEN           0.0459       75.
 GROUPS           0.0634        3.        1.404     0.2477
 ERROR (G)        0.0452       72.
WITHIN            0.0204       76.
 TRIALS           0.0010        1.        0.048     0.8220
 G BY T           0.0142        3.        0.677     0.5726
 ERROR (T)        0.0209       72.

G MEAN              1           2           3          4
               1.2190      1.2752      1.2275     1.3064

T MEAN              1           2
               1.2591      1.2539

G BY T              1           2
    1          1.2330      1.2050
    2          1.2595      1.2910
    3          1.2161      1.2389
    4          1.3306      1.2822
```

PEER REJECTION

```
SOURCE      MEAN SQUARE      D.F.       F-RATIO        P

TOTAL            0.0449      151.

BETWEEN          0.0652       75.

 GROUPS          0.0462        3.         0.700      0.5582

 ERROR (G)       0.0660       72.

WITHIN           0.0248       76.

 TRIALS          0.0136        1.         0.527      0.5228

 G BY T          0.0031        3.         0.121      0.9465

 ERROR (T)       0.0259       72.

G MEAN             1            2           3           4
               1.2200       1.2952      1.2619      1.2289

T MEAN             1            2
               1.2424       1.2613

G BY T             1            2

    1          1.1995       1.2405

    2          1.2925       1.2980

    3          1.2606       1.2633

    4          1.2161       1.2417
    GROUP 1     13 SUBJECTS.

    GROUP 2     18 SUBJECTS.

    GROUP 3     12 SUBJECTS.

    GROUP 4     16 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

    SOURCE       MEAN SQUARE      D.F.        F-RATIO       P

    TOTAL             8.4153      117.

    BETWEEN          11.3290       58.

     GROUPS          47.6636        3.          5.099      0.0038

     ERROR (G)        9.3472       55.

    WITHIN            5.5508       59.

     TRIALS          25.6356        1.          5.362      0.0229

     G BY T          12.9779        3.          2.715      0.0526

     ERROR (T)        4.7806       55.

    G MEAN             1            2            3            4
                     9.8077      12.1111       9.7500      11.8750

    T MEAN             1            2
                    11.5254      10.5932

    G BY T             1            2

       1             9.3077      10.3077

       2            13.0000      11.2222

       3            10.0000       9.5000

       4            12.8125      10.9375
```

TABLE 32.

T X S ANALYSES OF VARIANCE FOR NONANGLO FEMALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_2 AND T_3

```
GROUP 1    18 SUBJECTS.              NONANGLO FEMALE   HI SHIFT
GROUP 2    14 SUBJECTS.              NONANGLO FEMALE   HI...NO SHIFT
GROUP 3    16 SUBJECTS.              NONANGLO FEMALE   LO...NO SHIFT
GROUP 4    14 SUBJECTS.              NONANGLO FEMALE   LO SHIFT
```

MAT NONVERBAL (NV)

```
SOURCE     MEAN SQUARE      D.F.     F-RATIO        P
TOTAL           0.4631      123.
BETWEEN         0.6218       61.
 GROUPS         1.0903        3.       1.825     0.1514
 ERROR (G)      0.5975       58.
WITHIN          0.3069       62.
 TRIALS         3.1617        1.      12.877     0.0010
 G BY T         0.5425        3.       2.209     0.0954
 ERROR (T)      0.2455       58.

G MEAN            1            2            3          4
             4.4917       4.1571       4.6094     4.4643

T MEAN            1            2
             4.2806       4.6000

G BY T            1            2
    1        4.3056       4.6778
    2        3.8143       4.5000
    3        4.5250       4.6937
    4        4.4357       4.4929
```

MBT VERBAL (V)

```
SOURCE       MEAN SQUARE      D.F.     F-RATIO        P
TOTAL             1.0132      123.
BETWEEN           1.7003       61.
 GROUPS           3.4190        3.       2.122     0.1060
 ERROR (G)        1.6114       58.
WITHIN            0.3373       62.
 TRIALS           0.9061        1.       2.878     0.0914
 G BY T           0.5804        3.       1.843     0.1481
 ERROR (T)        0.3149       58.

G MEAN              1          2           3          4
                 3.8333     3.8607      4.5125     4.2536

T MEAN              1          2
                 4.0242     4.1952

G BY T              1          2

     1           3.8444     3.8222

     2           3.5929     4.1286

     3           4.3750     4.6500

     4           4.2857     4.2214
```

```
GROUP 1    20 SUBJECTS.                NONANGLO FEMALE   HI SHIFT

GROUP 2    19 SUBJECTS.                NONANGLO FEMALE   HI...NO SHIFT

GROUP 3    19 SUBJECTS.                NONANGLO FEMALE   LO...NO SHIFT

GROUP 4    21 SUBJECTS.                NONANGLO FEMALE   LO SHIFT
```

[illegible]L ANXIETY (SA)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           327.7826      157.

BETWEEN         557.0625       78.

 GROUPS        7383.4609        3.       25.998      0.0000

 ERROR (G)      284.0066       75.

WITHIN          101.4051       79.

 TRIALS         503.3164        1.       16.581      0.0003

 G BY T        1743.6647        3.       57.441      0.0000

 ERROR (T)       30.3559       75.

G MEAN             1            2           3           4
                41.5750      54.0526     20.3684     36.9762

T MEAN             1            2
                40.0380      36.4684

G BY T             1            2

   1            35.3000      47.8500

   2            55.4211      52.6842

   3            22.3158      18.4211

   4            46.6667      27.2857
```

```
[illegible], ATTITUDES (S)

  SOURCE       MEAN SQUARE       D.F.      F-RATIO        P

  TOTAL             6.4557       157.

  BETWEEN           8.0198        78.

   GROUPS          21.0223         3.        2.803     0.0446

   ERROR (G)        7.4997        75.

  WITHIN            4.9114        79.

   TRIALS           8.2025         1.        1.646     0.2007

   G BY T           1.9954         3.        0.400     0.7566

   ERROR (T)        4.9842        75.

  G MEAN              1           2            3           4
                   5.0250      4.4737       6.1579      5.6905

  T MEAN              1           2
                   5.1139      5.5696

  G BY T              1           2

      1            4.9500      5.1000

      2            4.3684      4.5789

      3            6.0000      6.3158

      4            5.1429      6.2381


SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

  SOURCE       MEAN SQUARE       D.F.      F-RATIO        P

  TOTAL             5.4006       157.

  BETWEEN           7.4090        78.

   GROUPS           4.1584         3.        0.552     0.6528

   ERROR (G)        7.5390        75.

  WITHIN            3.4177        79.

   TRIALS          22.7848         1.        7.154     0.0090

   G BY T           2.7873         3.        0.875     0.5397

   ERROR (T)        3.1847        75.

  G MEAN              1           2            3           4
                   4.0000      4.0263       3.5263      4.3095
```

```
T MEAN            1          2
             4.3544     3.5949

G BY T            1          2
    1        4.7500     3.2500
    2        4.1579     3.8947
    3        3.7895     3.2632
    4        4.6667     3.9524
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA$_V$)

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO          P
TOTAL            10.0027       157.
BETWEEN          13.5055        78.
 GROUPS          57.1570         3.         4.861     0.0042
 ERROR (G)       11.7595        75.
WITHIN            6.5443        79.
 TRIALS           4.9619         1.         0.985     0.6750
 G BY T          44.7764         3.         8.891     0.0001
 ERROR (T)        5.0361        75.

G MEAN            1          2           3           4
            13.5750    15.1316     12.1316     13.5000

T MEAN            1          2
            13.4051    13.7595

G BY T            1          2
    1       12.1000    15.0500
    2       14.5789    15.6842
    3       12.4737    11.7895
    4       14.4286    12.5714
```

APPROACH STYLE OF DEFENSIVENESS (DA$_p$)

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO          P
TOTAL            11.4440       157.
BETWEEN          15.8105        78.
```

```
  GROUPS          30.7725         3.          2.023       0.1165

  ERROR (G)       15.2120        75.

WITHIN             7.1329        79.

  TRIALS          17.7783         1.          2.569       0.1092

  G BY T           8.8955         3.          1.285       0.2849

  ERROR (T)        6.9205        75.

G MEAN               1            2            3            4
                 14.5000      15.3158      13.8158      15.8095

T MEAN               1            2
                 15.2152      14.5443

G BY T               1            2

     1           14.3500      14.6500

     2           15.3158      15.3158

     3           14.5263      13.1053

     4           16.5714      15.0476
```

```
GROUP 1      9 SUBJECTS.
GROUP 2     14 SUBJECTS.
GROUP 3     12 SUBJECTS.
GROUP 4      9 SUBJECTS.
```

CTMM NONVERBAL (NV)

```
SOURCE        MEAN SQUARE        D.F.       F-RATIO          P
TOTAL            244.9069         87.
BETWEEN          457.4046         43.
 GROUPS          187.0625          3.         0.392       0.7628
 ERROR (G)       477.6803         40.
WITHIN            37.2386         44.
 TRIALS           19.1016          1.         0.533       0.5235
 G BY T           61.5495          3.         1.716       0.1779
 ERROR (T)        35.8687         40.

G MEAN              1              2             3            4
                 91.6667        89.8571       96.1667      93.9444

T MEAN              1              2
                 93.2500        92.3182

G BY T              1              2
    1            90.5556        92.7778
    2            91.7857        87.9286
    3            97.5000        94.8333
    4            92.5556        95.3333
```

CTMM VERBAL (V)

```
    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL          189.4942       87.

    BETWEEN        355.3370       43.

     GROUPS        235.9115        3.         0.648      0.5926

     ERROR (G)     364.2939       40.

    WITHIN          27.4205       44.

     TRIALS        120.5547        1.         4.698      0.0341

     G BY T         19.8203        3.         0.772      0.5190

     ERROR (T)      25.6621       40.


    G MEAN            1            2            3           4
                  92.2778      85.8929      92.4583     89.6667


    T MEAN            1            2
                  90.9318      88.5909


    G BY T            1            2

        1         92.3333      92.2222

        2         87.9286      83.8571

        3         93.0000      91.9167

        4         91.4444      87.8889
```

```
GROUP 1    16 SUBJECTS.            NONANGLO FEMALE   HI SHIFT
GROUP 2    18 SUBJECTS.            NONANGLO FEMALE   HI...NO SHIFT
GROUP 3    19 SUBJECTS.            NONANGLO FEMALE   LO...NO SHIFT
GROUP 4    16 SUBJECTS.            NONANGLO FEMALE   LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO         P
TOTAL            10.5812      137.
BETWEEN          16.7445       68.
 GROUPS          22.8782        3.        1.390      0.2528
 ERROR (G)       16.4614       65.
WITHIN            4.5072       69.
 TRIALS          19.5942        1.        4.730      0.0313
 G BY T           7.3758        3.        1.780      0.1583
 ERROR (T)        4.1427       65.

G MEAN             1            2            3            4
               11.4063      11.2778      12.8947      11.2813

T MEAN             1            2
               12.1304      11.3768

G BY T             1            2
      1        11.5625      11.2500
      2        12.0000      10.5556
      3        13.6316      12.1579
      4        11.0625      11.5000
```

```
GROUP 1    12 SUBJECTS.

GROUP 2    14 SUBJECTS.

GROUP 3    15 SUBJECTS.

GROUP 4    17 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE      MEAN SQUARE      D.F.     F-RATIO        P

TOTAL           43.3957      115.

BETWEEN         63.2633       57.

 GROUPS         51.5768        3.       0.807      0.5018

 ERROR (G)      63.9126       54.

WITHIN          23.8707       58.

 TRIALS          0.0771        1.       0.003      0.9548

 G BY T         10.5544        3.       0.421      0.7420

 ERROR (T)      25.0511       54.

G MEAN             1           2          3           4
               24.5000     27.8214    26.9000     26.9706

T MEAN             1           2
               26.6724     26.6207

G BY T             1           2

     1         24.0833     24.9167

     2         27.6429     28.0000

     3         27.8000     26.0000

     4         26.7059     27.2353
```

```
  GROUP 1    21 SUBJECTS.

  GROUP 2    19 SUBJECTS.

  GROUP 3    19 SUBJECTS.

  GROUP 4    21 SUBJECTS.

FEELINGS OF INFERIORITY (FI)

  SOURCE     MEAN SQUARE     D.F.      F-RATIO       P

  TOTAL           0.7973     159.

  BETWEEN         0.7946      79.

   GROUPS         2.3828       3.        3.256     0.0257

   ERROR (G)      0.7319      76.

  WITHIN          0.8000      80.

   TRIALS         0.2250       1.        0.275     0.6080

   G BY T         0.5207       3.        0.636     0.5979

   ERROR (T)      0.8186      76.

  G MEAN           1           2           3           4
                1.6190      1.0789      1.2895      1.1429

  T MEAN           1           2
                1.3250      1.2500

  G BY T           1           2
      1         1.8095      1.4286
      2         1.0000      1.1579
      3         1.3158      1.2632
      4         1.1429      1.1429
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

   SOURCE      MEAN SQUARE      D.F.     F-RATIO         P

   TOTAL            1.0187      159.

   BETWEEN          1.1769       79.

    GROUPS          0.4695        3.       0.390      0.7640

    ERROR (G)       1.2048       76.

   WITHIN           0.8625       80.

    TRIALS          0.1000        1.       0.111      0.7389

    G BY T          0.2039        3.       0.227      0.8778

    ERROR (T)       0.8985       76.

   G MEAN           1           2          3            4
                 1.5000      1.3421     1.4474       1.2619

   T MEAN           1           2
                 1.3625      1.4125

   G BY T           1           2
       1         1.4286      1.5714
       2         1.4211      1.2632
       3         1.3684      1.5263
       4         1.2381      1.2857


NEUROTIC SYMPTOMS, SOCIAL (NS)

   SOURCE      MEAN SQUARE      D.F.     F-RATIO         P

   TOTAL            0.6786      159.

   BETWEEN          0.6443       79.

    GROUPS          1.2031        3.       1.933      0.1299

    ERROR (G)       0.6222       76.

   WITHIN           0.7125       80.

    TRIALS          0.2250        1.       0.305      0.5893

    G BY T          0.2191        3.       0.297      0.8294

    ERROR (T)       0.7384       76.

   G MEAN           1           2          3            4
                 1.4048      1.0263     1.3947       1.2619
```

```
T MEAN              1           2
               1.2375      1.3125

G BY T              1           2
  1            1.2857      1.5238
  2            1.0526      1.0000
  3            1.3158      1.4737
  4            1.2857      1.2381
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE       MEAN SQUARE      D.F.       F-RATIO          P

TOTAL             0.4931      159.

BETWEEN           0.4734       79.

 GROUPS           0.1250        3.         0.257     0.8574

 ERROR (G)        0.4872       76.

WITHIN            0.5125       80.

 TRIALS           0.6250        1.         1.198     0.2767

 G BY T           0.2445        3.         0.469     0.7091

 ERROR (T)        0.5216       76.

G MEAN              1           2            3           4
               1.1905      1.1842       1.1579      1.0714

T MEAN              1           2
               1.2125      1.0875

G BY T              1           2
  1            1.2857      1.0952
  2            1.3158      1.0526
  3            1.1053      1.2105
  4            1.1429      1.0000
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE       MEAN SQUARE      D.F.       F-RATIO          P

TOTAL             0.7572      159.

BETWEEN           0.9544       79.
```

```
   GROUPS            1.9546         3.          2.136      0.1013

   ERROR (G)         0.9150        76.

  WITHIN             0.5625        80.

   TRIALS            1.2250         1.          2.347      0.1258

   G BY T            1.3678         3.          2.620      0.0558

   ERROR (T)         0.5220        76.

  G MEAN              1             2           3           4
                   1.6667        1.2105      1.2895      1.2143

  T MEAN              1             2
                   1.2625        1.4375

  G BY T              1             2

     1             1.3333        2.0000

     2             1.1053        1.3158

     3             1.3158        1.2632

     4             1.2857        1.1429


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
  SOURCE        MEAN SQUARE      D.F.       F-RATIO         P

  TOTAL              0.6635       159.

  BETWEEN            0.8418        79.

   GROUPS            0.2736         3.          0.317      0.8154

   ERROR (G)         0.8642        76.

  WITHIN             0.4875        80.

   TRIALS            1.2250         1.          2.561      0.1097

   G BY T            0.4730         3.          0.989      0.5960

   ERROR (T)         0.4784        76.

  G MEAN              1             2           3           4
                   1.4762        1.3421      1.3947      1.2857

  T MEAN              1             2
                   1.4625        1.2875

  G BY T              1             2

     1             1.7143        1.2381
     2           1.4211      1.2632
     3           1.4211      1.3684
     4           1.2857      1.2857
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
  TOTAL             0.2868      159.
  BETWEEN           0.2608       79.
   GROUPS           0.0279        3.       0.103      0.9570
   ERROR (G)        0.2700       76.
  WITHIN            0.3125       80.
   TRIALS           1.2250        1.       4.124      0.0431
   G BY T           0.3995        3.       1.345      0.2652
   ERROR (T)        0.2971       76.

  G MEAN             1           2           3           4
                  1.2381      1.1842      1.1842      1.1905

  T MEAN             1           2
                  1.2875      1.1125

  G BY T             1           2
     1            1.1905      1.2857
     2            1.3684      1.0000
     3            1.3158      1.0526
     4            1.2857      1.0952
```

DIFFUSE HYPERACTIVITY (DH)

```
  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P
  TOTAL             0.3465      159.
  BETWEEN           0.3619       79.
   GROUPS           0.9222        3.       2.714      0.0497
   ERROR (G)        0.3398       76.
  WITHIN            0.3312       80.
   TRIALS           0.0062        1.       0.018      0.8878
```

```
 G BY T          0.1888      3.        0.553    0.6516

 ERROR (T)       0.3411     76.

G MEAN            1           2          3         4
                1.3571      1.1316     1.1316    1.0000

T MEAN            1           2
                1.1500      1.1625

G BY T            1           2

    1           1.2857      1.4286

    2           1.2105      1.0526

    3           1.1579      1.1053

    4           0.9524      1.0476
```

```
GROUP 1     18 SUBJECTS.                 NONANGLO FEMALE   HI SHIFT

GROUP 2     19 SUBJECTS.                 NONANGLO FEMALE   HI...NO SHIFT

GROUP 3     18 SUBJECTS.                 NONANGLO FEMALE   LO...NO SHIFT

GROUP 4     21 SUBJECTS.                 NONANGLO FEMALE   LO SHIFT
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO        P

TOTAL            0.0367       151.

BETWEEN          0.0544        75.

 GROUPS          0.1465         3.        2.898     0.0400

 ERROR (G)       0.0506        72.

WITHIN           0.0193        76.

 TRIALS          0.0043         1.        0.217     0.6476

 G BY T          0.0107         3.        0.538     0.6617

 ERROR (T)       0.0199        72.

G MEAN          1             2           3            4
           1.2500        1.3171      1.2983       1.1814

T MEAN          1             2
           1.2539        1.2646


G BY T          1             2

    1      1.2683        1.2317

    2      1.2947        1.3395

    3      1.2928        1.3039

    4      1.1714        1.1914
```

PEER REJECTION

```
SOURCE        MEAN SQUARE      D.F.       F-RATIO         P

TOTAL              0.0432      151.

BETWEEN            0.0714       75.

GROUPS             0.1334        3.         1.940       0.1294

 ERROR (G)         0.0688       72.

WITHIN             0.0154       76.

TRIALS             0.0140        1.         0.879       0.6460

G BY T             0.0021        3.         0.129       0.9419

ERROR (T)          0.0160       72.

G MEAN              1           2           3           4
               1.3100      1.2311      1.1750      1.2862

T MEAN              1           2
               1.2613      1.2421

G BY T              1           2

    1          1.3117      1.3083

    2          1.2363      1.2258

    3          1.1933      1.1567

    4          1.2990      1.2733
```

```
      GROUP 1     14 SUBJECTS.

      GROUP 2     18 SUBJECTS.

      GROUP 3     16 SUBJECTS.

      GROUP 4     11 SUBJECTS.


  PRONENESS TOWARD NEUROTICISM (PTN)

      SOURCE      MEAN SQUARE      D.F.        F-RATIO        P
      TOTAL            9.1920      117.
      BETWEEN         14.6201       58.
       GROUPS         11.9362        3.          0.808      0.5026
       ERROR (G)      14.7665       55.
      WITHIN           3.8559       59.
       TRIALS          0.6865        1.          0.197      0.6629
       G BY T         11.7874        3.          3.386      0.0239
       ERROR (T)       3.4809       55.

      G MEAN            1           2            3           4
                  10.0357     11.3333      10.3125     10.0909

      T MEAN            1           2
                  10.5932     10.4407

      G BY T            1           2

          1        9.6429     10.4286

          2       11.1667     11.5000

          3       10.3125     10.3125

          4       11.2727      8.9091
```

TABLE 33.

T X S ANALYSES OF VARIANCE FOR NONANGLO FEMALES CLASSIFIED BY SHIFT IN SCHOOL ANXIETY BETWEEN T_3 AND T_4

```
GROUP 1     17 SUBJECTS.              NONANGLO FEMALE   HI SHIFT
GROUP 2     15 SUBJECTS.              NONANGLO FEMALE   HI...NO SHIFT
GROUP 3     16 SUBJECTS.              NONANGLO FEMALE   LO...NO SHIFT
GROUP 4     14 SUBJECTS.              NONANGLO FEMALE   LO SHIFT


MAT NONVERBAL (NV)
 SOURCE      MEAN SQUARE     D.F.      F-RATIO        P
 TOTAL           0.3991      123.
 BETWEEN         0.5172       61.
  GROUPS         0.8970        3.        1.803      0.1554
  ERROR (G)      0.4976       58.
 WITHIN          0.2830       62.
  TRIALS         8.8356        1.       62.711      0.0000
  G BY T         0.1791        3.        1.271      0.2921
  ERROR (T)      0.1409       58.

 G MEAN            1           2           3           4
                4.7588      4.7433      5.1062      4.8571

 T MEAN            1           2
                4.6000,     5.1339

 G BY T            1           2
     1          4.4471      5.0706
     2          4.4733      5.0133
     3          4.7875      5.4250
     4          4.7071      5.0071
```

```
MAT VERBAL (V)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            1.4547      123.

   BETWEEN          2.4366       61.

    GROUPS          7.1978        3.        3.286      0.0265

    ERROR (G)       2.1904       58.

   WITHIN           0.4885       62.

    TRIALS         14.3616        1.       59.469      0.0000

    G BY T          0.6404        3.        2.652      0.0561

    ERROR (T)       0.2415       58.

   G MEAN             1            2          3            4
                   4.5412       4.2467      5.1875      4.0929

   T MEAN             1            2
                   4.1952       4.8758

   G BY T             1            2

       1           4.3118       4.7706

       2           3.8267       4.6667

       3           4.6875       5.6875

       4           3.8857       4.3000
```

```
GROUP 1    19 SUBJECTS.           NONANGLO FEMALE   HI SHIFT
GROUP 2    20 SUBJECTS.           NONANGLO FEMALE   HI...NO SHIFT
GROUP 3    20 SUBJECTS.           NONANGLO FEMALE   LO...NO SHIFT
GROUP 4    20 SUBJECTS.           NONANGLO FEMALE   LO SHIFT

SCHOOL ANXIETY (SA)
 SOURCE      MEAN SQUARE      D.F.      F-RATIO       P
 TOTAL          312.1285      157.
 BETWEEN        528.2843       78.
  GROUPS       5609.0696        3.       17.256      0.0000
  ERROR (G)     325.0529       75.
 WITHIN          98.7089       79.
  TRIALS        209.6445        1.       10.233      0.0024
  G BY T       2017.2747        3.       98.466      0.0000
  ERROR (T)      20.4871       75.

 G MEAN            1            2           3            4
                32.7895      49.8250     21.1750      37.3500

 T MEAN            1            2
                36.4684      34.1646

 G BY T            1            2
    1           25.6842      39.8947
    2           50.2000      49.4500
    3           21.7000      20.6500
    4           47.7500      26.9500
```

SEX LINKED INTERESTS, ATTITUDES (S)

```
SOURCE       MEAN SQUARE        D.F.        F-RATIO          P

TOTAL             8.5043        157.

BETWEEN          12.2394         78.

 GROUPS          35.6407          3.          3.153        0.0291

 ERROR (G)       11.3033         75.

WITHIN            4.8165         79.

 TRIALS          45.7278          1.         10.506        0.0021

 G BY T           2.7762          3.          0.638        0.5967

 ERROR (T)        4.3526         75.

G MEAN              1             2             3             4
                 6.4737        4.7000        6.6750        6.6000

T MEAN              1             2
                 5.5696        6.6456

G BY T              1             2

   1             6.2105        6.7368

   2             4.3500        5.0500

   3             5.9000        7.4500

   4             5.8500        7.3500
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
SOURCE       MEAN SQUARE        D.F.        F-RATIO          P

TOTAL             7.5229        157.

BETWEEN           8.5011         78.

 GROUPS          21.6076          3.          2.709        0.0501

 ERROR (G)        7.9769         75.

WITHIN            6.5570         79.

 TRIALS          36.5570          1.          5.924        0.0164

 G BY T           6.2047          3.          1.005        0.3964

 ERROR (T)        6.1711         75.

G MEAN              1             2             3             4
                 5.2105        3.6750        3.6750        3.8000
```

```
T MEAN             1            2
              3.5949       4.5570

G BY T             1            2

    1         4.3158       6.1053

    2         3.6000       3.7500

    3         3.4500       3.9000

    4         3.0500       4.5500
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
SOURCE      MEAN SQUARE       D.F.       F-RATIO          P

TOTAL           10.3486       157.

BETWEEN         14.4581        78.

 GROUPS         88.4229         3.         7.689       0.0003

 ERROR (G)      11.4995        75.

WITHIN           6.2911        79.

 TRIALS          5.6963         1.         0.920       0.6576

 G BY T          8.9704         3.         1.449       0.2343

 ERROR (T)       6.1919        75.

G MEAN             1            2            3            4
             12.7895      15.5000      12.0750      13.8750

T MEAN             1            2
             13.7595      13.3797

G BY T             1            2

    1        12.4211      13.1579

    2        15.9000      15.1000

    3        12.0500      12.1000

    4        14.6000      13.1500
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
SOURCE      MEAN SQUARE       D.F.       F-RATIO          P

TOTAL           13.2117       157.

BETWEEN         16.0222        78.
```

```
 GROUPS          49.3057          3.          3.356       0.0228

 ERROR (G)       14.6909         75.

WITHIN           10.4367         79.

 TRIALS          35.6013          1.          3.408       0.0654

 G BY T           1.7832          3.          0.171       0.9155

 ERROR (T)       10.4473         75.

G MEAN              1           2           3           4
                 13.3684     15.3500     12.9250     14.6000


T MEAN              1           2
                 14.5443     13.5949


G BY T              1           2

     1           13.8947     12.8421

     2           16.1000     14.6000

     3           13.2000     12.6500

     4           14.9500     14.2500
```

```
GROUP 1    12 SUBJECTS.
GROUP 2    13 SUBJECTS.
GROUP 3    12 SUBJECTS.
GROUP 4     7 SUBJECTS.


CTMM NONVERBAL (NV)

SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

TOTAL           284.4221        87.

BETWEEN         506.1214        43.

 GROUPS        1624.3281         3.         3.847      0.0163

 ERROR (G)      422.2559        40.

WITHIN           67.7614        44.

 TRIALS         348.0078         1.         5.574      0.0219

 G BY T          45.4427         3.         0.728      0.5443

 ERROR (T)       62.4291        40.

G MEAN             1            2           3            4
                86.7500      89.6923     105.1667      97.2143

T MEAN             1            2
                92.3182      96.2955

G BY T             1            2

     1          83.3333      90.1667

     2          89.2308      90.1538

     3         103.6667     106.6667

     4          94.0000     100.4286
```

CIMM VERBAL (V)

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL         190.1609        87.

BETWEEN       355.8605        43.

 GROUPS       563.5755         3.        1.656     0.1906

 ERROR (G)    340.2818        40.

WITHIN         28.2273        44.

 TRIALS        14.7266         1.        0.502     0.5104

 G BY T        17.8568         3.        0.609     0.6171

 ERROR (T)     29.3426        40.

G MEAN           1            2            3          4
              87.7083      85.8462      96.0000    85.0714

T MEAN           1            2
              88.5909      89.4091

G BY T           1            2

     1        86.9167      88.5000

     2        84.5385      87.1538

     3        96.5833      95.4167

     4        85.2857      84.8571
```

```
GROUP 1    15 SUBJECTS.          NONANGLO FEMALE   HI SHIFT

GROUP 2    18 SUBJECTS.          NONANGLO FEMALE   HI...NO SHIFT

GROUP 3    19 SUBJECTS.          NONANGLO FEMALE   LO...NO SHIFT

GROUP 4    16 SUBJECTS.          NONANGLO FEMALE   LO SHIFT
```

GRADE POINT AVERAGE (GPA)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            10.7320      135.

BETWEEN          18.4226       67.

 GROUPS          44.8629        3.        2.611      0.0579

 ERROR (G)       17.1832       64.

WITHIN            3.1544       68.

 TRIALS          53.1250        1.       21.120      0.0001

 G BY T           0.1292        3.        0.051      0.9838

 ERROR (T)        2.5154       64.

G MEAN             1           2           3           4
               11.3333     11.5000     13.6316     11.4063

T MEAN             1           2
               11.4118     12.6618

G BY T             1           2

     1         10.7333     11.9333

     2         10.8889     12.1111

     3         13.0526     14.2105

     4         10.6875     12.1250
```

```
GROUP 1    23 SUBJECTS.

GROUP 2    21 SUBJECTS.

GROUP 3    23 SUBJECTS.

GROUP 4    21 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO         P

TOTAL            42.8270      175.

BETWEEN          74.7152       87.

 GROUPS          18.1810        3.        0.237     0.8710

 ERROR (G)       76.7343       84.

WITHIN           11.3011       88.

 TRIALS           3.0049        1.        0.276     0.6074

 G BY T          25.1882        3.        2.310     0.0809

 ERROR (T)       10.9039       84.

G MEAN              1           2           3           4
                26.0870     25.8571     27.3043     26.3571

T MEAN              1           2
                26.2841     26.5455

G BY T              1           2

    1           26.3478     25.8261

    2           26.6190     25.0952

    3           26.5652     28.0435

    4           25.5714     27.1429
```

```
GROUP 1    19 SUBJECTS.

GROUP 2    20 SUBJECTS.

GROUP 3    20 SUBJECTS.

GROUP 4    21 SUBJECTS.


FEELINGS OF INFERIORITY (FI)

SOURCE       MEAN SQUARE       D.F.      F-RATIO         P

TOTAL             0.8074       159.

BETWEEN           1.0680        79.

 GROUPS           0.1428         3.        0.129      0.9417

 ERROR (G)        1.1046        76.

WITHIN            0.5500        80.

 TRIALS           0.6250         1.        1.126      0.2921

 G BY T           0.3949         3.        0.711      0.5514

 ERROR (T)        0.5551        76.


G MEAN                 1          2          3           4
                  1.3421     1.3750     1.3000      1.2381


T MEAN                 1          2
                  1.2500     1.3750


G BY T                 1          2

   1              1.1579     1.5263

   2              1.3500     1.4000

   3              1.2000     1.4000

   4              1.2857     1.1905
```

NEUROTIC SYMPTOMS, ACADEMIC (NA)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

TOTAL            2.0000     159.

BETWEEN          2.1392      79.

 GROUPS          0.5289       3.        0.240      0.8688

 ERROR (G)       2.2028      76.

WITHIN           1.8625      80.

 TRIALS          1.2250       1.        0.674      0.5806

 G BY T          3.2287       3.        1.777      0.1573

 ERROR (T)       1.8170      76.


G MEAN             1           2          3          4
                 1.6579      1.4000     1.5250     1.4286


T MEAN             1           2
                 1.4125      1.5875


G BY T             1           2

   1             1.2105      2.1053

   2             1.2500      1.5500

   3             1.5000      1.5500

   4             1.6667      1.1905
```

NEUROTIC SYMPTOMS, SOCIAL (NS)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

TOTAL            0.9528     159.

BETWEEN          0.9430      79.

 GROUPS          0.6850       3.        0.719      0.5471

 ERROR (G)       0.9532      76.

WITHIN           0.9625      80.

 TRIALS          0.6250       1.        0.695      0.5880

 G BY T          2.6784       3.        2.979      0.0359

 ERROR (T)       0.8992      76.


G MEAN             1           2          3          4
                 1.5263      1.2500     1.4500     1.2857
```

```
T MEAN          1           2
           1.3125      1.4375

G BY T          1           2
  1        1.2632      1.7895
  2        1.0000      1.5000
  3        1.4000      1.5000
  4        1.5714      1.0000
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

TOTAL            1.2185     159.

BETWEEN          1.2183      79.

 GROUPS          1.1767       3.        0.965     0.5844

 ERROR (G)       1.2199      76.

WITHIN           1.2188      80.

 TRIALS          1.4063       1.        1.136     0.2900

 G BY T          0.6577       3.        0.531     0.6665

 ERROR (T)       1.2384      76.

G MEAN          1           2            3            4
           1.4474      1.1000       1.1000       1.0952

T MEAN          1           2
           1.0875      1.2750

G BY T          1           2
  1        1.1579      1.7368
  2        1.0500      1.1500
  3        1.1000      1.1000
  4        1.0476      1.1429
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE      MEAN SQUARE     D.F.      F-RATIO        P

TOTAL            1.9294     159.

BETWEEN          2.1364      79.
```

```
 GROUPS            1.1375       3.         0.523       0.6721

 ERROR (G)         2.1758      76.

WITHIN             1.7250      80.

 TRIALS            3.6000       1.         2.187       0.1395

 G BY T            3.0968       3.         1.881       0.1385

 ERROR (T)         1.6462      76.


G MEAN              1            2           3            4
                 1.7368       1.6750      1.3500       1.5952


T MEAN              1            2
                 1.4375       1.7375


G BY T              1            2

   1             1.3158       2.1579

   2             1.5500       1.8000

   3             1.0500       1.6500

   4             1.8095       1.3810


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
 SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

 TOTAL             0.6099     159.

 BETWEEN           0.7845      79.

  GROUPS           0.8250       3.         1.054        0.3746

  ERROR (G)        0.7829      76.

 WITHIN            0.4375      80.

  TRIALS           0.9000       1.         2.020        0.1557

  G BY T           0.0787       3.         0.177        0.9115

  ERROR (T)        0.4456      76.


 G MEAN             1            2           3            4
                 1.5263       1.3250      1.4250       1.1905


 T MEAN             1            2
                 1.2875       1.4375


 G BY T             1            2

   1             1.4737       1.5789
```

```
      2          1.3000     1.3500
      3          1.3000     1.5500
      4          1.0952     1.2857

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL             0.2711      159.

    BETWEEN           0.2671       79.

     GROUPS           0.1015        3.       0.371      0.7773

     ERROR (G)        0.2736       76.

    WITHIN            0.2750       80.

     TRIALS           0.6250        1.       2.280      0.1313

     G BY T           0.1816        3.       0.663      0.5811

     ERROR (T)        0.2741       76.

    G MEAN           1          2          3          4
                 1.2105     1.2250     1.1500     1.1190

    T MEAN           1          2
                 1.1125     1.2375

    G BY T           1          2

      1          1.1053     1.3158

      2          1.1000     1.3500

      3          1.1000     1.2000

      4          1.1429     1.0952


DIFFUSE HYPERACTIVITY (DH)
    SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

    TOTAL             0.6792      159.

    BETWEEN           0.9747       79.

     GROUPS           1.0404        3.       1.070      0.3674

     ERROR (G)        0.9721       76.

    WITHIN            0.3875       80.

     TRIALS           1.2250        1.       3.196      0.0742
```

```
G BY T          0.2154       3.        0.562     0.6460

ERROR (T)       0.3833      76.

G MEAN            1           2          3          4
               1.1579      1.1250     1.2250     1.4762

T MEAN            1           2
               1.1625      1.3375

G BY T            1           2

     1         1.0526      1.2632

     2         1.0500      1.2000

     3         1.0500      1.4000

     4         1.4762      1.4762
```

```
GROUP 1     14 SUBJECTS.
GROUP 2     18 SUBJECTS.
GROUP 3     15 SUBJECTS.
GROUP 4     11 SUBJECTS.

PEER ACCEPTANCE

SOURCE      MEAN SQUARE      D.F.       F-RATIO        P
TOTAL            0.0504      115.
BETWEEN          0.0853       57.
 GROUPS          0.0863        3.         1.013     0.3954
 ERROR (G)       0.0852       54.
WITHIN           0.0161       58.
 TRIALS          0.0279        1.         1.737     0.1902
 G BY T          0.0134        3.         0.835     0.5166
 ERROR (T)       0.0161       54.

G MEAN              1          2            3          4
               1.2632     1.2903       1.3853     1.2845

T MEAN              1          2
               1.2917     1.3228

G BY T              1          2
      1        1.2621     1.2643
      2        1.2861     1.2944
      3        1.3387     1.4320
      4        1.2745     1.2945
```

PEER REJECTION

```
 SOURCE     MEAN SQUARE     D.F.      F-RATIO        P

 TOTAL          0.0950      115.

 BETWEEN        0.1213       57.

  GROUPS        0.1882        3.        1.601      0.1986

  ERROR (G)     0.1176       54.

 WITHIN         0.0692       58.

  TRIALS        0.2860        1.        4.530      0.0357

  G BY T        0.1055        3.        1.671      0.1828

  ERROR (T)     0.0631       54.


 G MEAN           1            2           3           4
               1.2307       1.3942      1.2423      1.2709


 T MEAN           1            2
               1.2424       1.3417


 G BY T           1            2

    1          1.2071       1.2543

    2          1.2900       1.4983

    3          1.1687       1.3160

    4          1.3100       1.2318
```

```
GROUP 1     13 SUBJECTS.

GROUP 2     18 SUBJECTS.

GROUP 3     14 SUBJECTS.

GROUP 4     14 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

  SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

  TOTAL             9.2143      117.

  BETWEEN          13.1736       58.

    GROUPS         15.0441        3.       1.151      0.3369

    ERROR (G)      13.0716       55.

  WITHIN            5.3220       59.

    TRIALS          0.3051        1.       0.054      0.8126

    G BY T          0.2933        3.       0.052      0.9837

    ERROR (T)       5.6875       55.

  G MEAN          1               2            3            4
             11.1154         10.5556      10.5357       9.3571

  T MEAN          1               2
             10.4407         10.3390

  G BY T          1               2

      1      11.1538         11.0769

      2      10.6111         10.5000

      3      10.7143         10.3571

      4       9.2857          9.4286
```

Table 34.

Means at T_1, T_2, T_3, and T_4 on all variables for children classified by sex and socio-cultural status, with probabilities obtained from TXS analyses of variance

Variables and groups	T_1	T_2	T_3	T_4	P*
School anxiety (SA)					
Anglo males	23.8	24.5	19.1	20.0	.281, .000, .227
Anglo females	28.8	23.5	20.5	22.4	.000, .000, .007
Non-Anglo males	35.4	32.4	29.5	26.6	.000, .000, .002
Non-Anglo females	45.5	40.0	36.5	34.2	.000, .000, .002
School Motivation (SM)					
Anglo males	24.0	23.9	23.8	24.0	.712, .865, .772
Anglo females	26.4	27.3	23.4	23.3	.105, .097, .592
Non-Anglo males	23.2	21.7	26.6	24.8	.059, .009, .092
Non-Anglo females	25.8	26.7	26.6	26.5	.673, .955, .607
Self disparagement, in relation to peers (SD)					
Anglo males	3.6	4.6	4.3	4.9	.001, .000, .072
Anglo females	3.2	3.8	3.6	4.4	.011, .503, .017
Non-Anglo males	4.1	4.8	4.2	5.2	.034, .101, .015
Non-Anglo females	3.7	4.4	3.6	4.6	.044, .009, .016
Avoidance style of defensiveness (D_{AV})					
Anglo males	13.0	13.1	11.8	12.0	.675, .000, .512
Anglo females	13.3	13.1	12.8	12.7	.535, .587, .870
Non-Anglo males	14.1	12.4	13.0	12.6	.000, .147, .287
Non-Anglo females	14.2	13.4	13.8	13.4	.046, .675, .658
Approach style of defensiveness (D_{AP})					
Anglo males	14.1	13.1	12.2	11.6	.007, .016, .082
Anglo females	14.8	14.5	13.7	13.3	.226, .052, .508
Non-Anglo males	15.1	13.9	13.6	13.1	.002, .508, .632
Non-Anglo females	15.3	15.2	14.5	13.6	.880, .109, .065
Feelings of inferiority (FI)					
Anglo males	1.3	1.4	1.9	2.0	.508, .006, .642
Anglo females	1.1	1.3	1.4	1.7	.091, .551, .074
Non-Anglo males	1.6	1.9	1.6	1.8	.092, .269, .275
Non-Anglo females	1.2	1.3	1.3	1.4	.236, .608, .292

Table 34.
(Continued)

Variables and groups	T_1	T_2	T_3	T_4	P*
Neurotic symptoms, academic (NA)					
Anglo males	1.5	1.5	1.8	1.9	.677, .167, .532
Anglo females	1.2	1.5	1.4	1.8	.004, .615, .003
Non-Anglo males	1.7	2.1	2.1	1.9	.042, .910, .621
Non-Anglo females	1.3	1.4	1.4	1.6	.715, .739, .581
Neurotic symptoms, social (NS)					
Anglo males	1.5	1.6	2.1	2.0	.000, .013, .664
Anglo females	1.1	1.2	1.5	1.6	NA , .014, .676
Non-Anglo males	1.7	2.0	2.0	1.9	.000, .954, .670
Non-Anglo females	1.3	1.2	1.3	1.4	NA , .589, .588
Aggression, with independence strivings (AI)					
Anglo males	1.5	1.5	1.9	1.7	.888, .055, .156
Anglo females	1.2	1.4	1.4	1.4	.114, .918, .767
Non-Anglo males	2.0	1.9	1.8	1.9	.703, .732, .575
Non-Anglo females	1.1	1.2	1.1	1.3	.651, .277, .290
Active withdrawal (AW)					
Anglo males	1.8	1.7	1.9	1.8	.638, .265, .955
Anglo females	1.2	1.6	1.6	1.4	.005, .884, .059
Non-Anglo males	2.1	2.0	1.6	2.2	.616, .054, .006
Non-Anglo females	1.4	1.3	1.4	1.7	.654, .126, .140
Emotional disturbance, with depression (ED)					
Anglo males	1.4	1.4	1.5	1.5	.725, .588, .917
Anglo females	1.4	1.4	1.5	1.5	.742, .651, .840
Non-Anglo males	1.3	1.4	1.3	1.3	.767, .653, .828
Non-Anglo females	1.3	1.5	1.3	1.4	.594, .110, .156
Self enhancement, through derogation of others (SE)					
Anglo males	1.2	1.2	1.3	1.2	.858, .203, .303
Anglo females	1.1	1.4	1.4	1.4	.002, 1.00, 1.00
Non-Anglo males	1.2	1.4	1.2	1.3	.022, .032, .178
Non-Anglo females	1.3	1.3	1.1	1.2	.877, .043, .131
Diffuse hyperactivity (DH)					
Anglo males	1.4	1.4	1.4	1.4	NA, .653, .808
Anglo females	1.2	1.2	1.3	1.3	NA, .502, .891
Non-Anglo males	1.4	1.4	1.5	1.6	NA, .609, .599
Non-Anglo females	1.1	1.2	1.2	1.3	NA, .888, .074

Table 34.
(Continued)

Variables and groups	T_1	T_2	T_3	T_4	P*
Peer acceptance (PA)					
Anglo males	1.2	1.2	1.2	1.4	.728, .167, .000
Anglo females	1.2	1.2	1.2	1.4	.319, .147, .000
Non-Anglo males	1.2	1.2	1.2	1.3	.621, .563, .007
Non-Anglo females	1.3	1.3	1.3	1.3	.822, .648, .190
Peer rejection (PR)					
Anglo males	1.2	1.2	1.2	1.3	.233, .568, .011
Anglo females	1.2	1.2	1.2	1.3	.680, .045, .031
Non-Anglo males	1.2	1.2	1.3	1.3	.309, .050, .519
Non-Anglo females	1.2	1.3	1.2	1.3	.523, .646, .036
MAT Non-Verbal (NV)					
Anglo males	4.1	5.2	5.3	6.0	.000, .004, .000
Anglo females	4.0	5.3	5.3	5.8	.000, .856, .000
Non-Anglo males	3.3	4.2	4.6	5.2	.000, .000, .000
Non-Anglo females	3.2	4.3	4.6	5.1	.000, .001, .000
MAT Verbal (V)					
Anglo males	4.7	6.1	6.2	6.7	.000, .582, .000
Anglo females	4.6	6.2	6.1	6.6	.000, .279, .000
Non-Anglo males	3.1	3.9	4.1	4.9	.000, .014, .000
Non-Anglo females	3.2	4.0	4.2	4.9	.000, .091, .000
CTMM Non-Verbal IQ					
Anglo males	102.6	112.3	110.2	115.9	.000, .114, .000
Anglo females	107.2	115.2	115.7	119.0	.000, .675, .005
Non-Anglo males	84.0	90.0	90.4	98.5	.000, .815, .000
Non-Anglo females	84.1	93.3	92.3	96.3	.000, .524, .022
CTMM Verbal IQ					
Anglo males	104.2	110.7	109.0	111.9	.000, .113, .013
Anglo females	108.9	114.0	111.2	113.2	.000, .008, .059
Non-Anglo males	87.5	89.8	87.0	91.8	.049, .021, .007
Non-Anglo females	88.8	90.9	88.6	89.4	.059, .034, .510
Proneness toward neuroticism (PTN)					
Anglo males	9.4	9.4	8.5	8.6	.969, .033, .800
Anglo females	10.1	8.7	8.6	7.7	.002, .799, .008
Non-Anglo males	10.6	9.5	9.0	9.5	.018, .287, .300
Non-Anglo females	11.5	10.6	10.4	10.3	.023, .663, .813
Grade point average (GPA)					
Anglo males	12.4	13.4	12.4	12.7	.000, .000, .113
Anglo females	13.1	14.1	13.5	13.9	.000, .007, .026
Non-Anglo males	10.3	11.0	10.9	11.7	.001, .632, .001
Non-Anglo females	11.1	12.1	11.4	12.7	.000, .031, .000

Table 34.
(Continued)

Variables and groups	T_1	T_2	T_3	T_4	P*
Sex-linked interests, attitudes (S)					
Anglo males	9.3	10.7	10.3	10.4	.000, .091, .597
Anglo females	5.1	6.6	6.6	7.3	.000, 1.00, .032
Non-Anglo males	8.9	9.6	9.7	10.2	.031, .811, .139
Non-Anglo females	4.7	5.1	5.6	6.6	.183, .201, .002

Note: All means were rounded to the first decimal place. For a more accurate value refer to the main tables.

* Significance of the difference between T_1 and T_2, T_2 and T_3, and T_3 and T_4, listed in that order.

children is consistent with both theory (as developed in Chapter 1) and empirical results elsewhere. Furthermore, it is interesting that there is a general decrease in SA between T_1 and T_4. A number of investigators have studied the effects of repeated measurement on personality questionnaires, and they generally have found declines over time; but few of these studies used the time spread involved here. Also, they have found that the effects of repeated measurement are pretty well dissipated by the end of the second administration; and one of the purposes of splitting the CSQ into three forms administered a week apart was to "wash out" this repeated measurement effect during each testing period. (For one of the most recent and adequate series of studies of the repeated measurement effect see Howard, 1964, and Howard and Diesenhaus, 1965.) Therefore, if one can rule out repeated measurement effects, it appears that there was an actual decline in school anxiety during the two years of this project; and if that is so, the decline was greater in Non-Anglo than Anglo children.

2. School Motivation (SM)

Sex and socio-cultural status differences in SM were precluded by the method of obtaining this information, as described in Chapter 2. There are, however, significant differences over "treatments" for Anglo females and Non-Anglo males. Non-Anglo males increased in SM over the summer months and decreased during both school years, while Anglo females decreased in SM across the summer months. It is only for Non-Anglo males, therefore, that we get results which suggest a significant in-school influence - and in this instance it appears to be a negative influence.

3. Self Disparagement in Relation to Peers (SD)

It is interesting, and probably significant, that males tend to show more evidence of self disparagement in relation to peers than females among both Anglo and Non-Anglo children. The items of the SD scale reflect inadequacies in terms of competence; and it is not surprising that boys, who have more trouble in school, should feel this way. It also appears that SD is closely related to in-school experiences, since it increases during both school years and falls during the summer months.

4. Avoidance Style of Defensiveness (D_{AV})

In interpreting the D_{AV} means it must be remembered that a high D_{AV} score actually represents a low avoidance tendency. With this in mind, it is obvious that boys consistently have somewhat higher D_{AV} scores than girls; and this agrees well with the literature on defensiveness (See Chapter 1). As for significant differences between "treatments," Anglo males show a drop in D_{AV} between T_2 and T_3 and both Non-Anglo males and females show a drop between T_1 and T_2.

5. Approach Style of Defensiveness (D_{AP})

Generally, girls show higher D_{AP} scores than boys, and this is not unexpected in view of the conformity and other characteristics of girls. With respect to changes in D_{AP} across "treatments," it is evident that there is a steady decline in D_{AP} from T_1 to T_4, and, in addition, a number of these differences between periods are highly significant in a statistical sense.

6. Feelings of Inferiority (FI)

Feelings of inferiority are generally more pronounced in boys than girls, and in Non-Anglos than Anglos; and this is in keeping with general psychological knowledge (remembering, of course, that this information comes from the teacher's observations of children's behavior). Also, the trend of the means suggests that FI is under the influence of the in-school environment.

7. Neurotic Symptoms, Academic (NA)

Basically the same sex and socio-cultural status differences occur with regard to NA that were found for FI, i.e., males and Non-Anglos had higher NA means than females and Anglos. There also is some tendency for NA to go up during both school years and down in the summer months in between, indicating that there may be an in-school influence on NA.

8. Neurotic Symptoms, Social (NS)

Males clearly show higher NS means than females, and Non-Anglos show higher NS means than Anglos. Also, there are significant increases between T_2 and T_3 for Anglos, but not for Non-Anglos, and generally insignificant differences across both school years. On the basis of our rationale, there is the suggestion here of an out-of-school influence on NS among Anglo children.

9. Aggression with Independence Strivings (AI)

As one would expect, boys have higher AI scores than girls; but contrary to expectations, the overall AI level of Non-Anglos is no higher than that for Anglos, although there is an interaction between fourth and fifth grades (with Anglos being higher in fourth and Non-Anglos being higher in fifth).

10. Active Withdrawal (AW)

In regard to AW, boys again have higher scores than girls; and, in an overall sense, Non-Anglos have higher scores than Anglos. Trends across time periods are not consistent with the rationale, and only two reach a satisfactory level of statistical significance.

11. Emotional Disturbance with Depression (ED)

Generally, differences between the sexes, between Anglos and Non-Anglos, and between T_1 and T_4 are slight, although Anglo children consistently have higher ED means than Non-Anglo children.

12. Self Enhancement through Derogation of Others (SE)

Trends across the "treatments" are generally undiscernable with regard to SE; but among Non-Anglos there is a tendency for males to have higher SE means than females, while among Anglos there is a tendency for females to have higher SE means than males.

13. Diffuse Hyperactivity (DH)

With regard to DH, boys consistently have higher means than girls, and this fits well with observations of teachers and reports in the educational and psychological literature. At the same time, there clearly are no significant trends across the "treatment" periods.

14. Peer Acceptance (PA)

In interpreting these scores it must be remembered that a constant of 1.0 was added for computational convenience. Also, there is a very small variability in these scores and rounding errors have tended to obliterate the significance of the differences (see Chapter 2 for a discussion of scoring method and the complete tables for the actual means). In this connection, it also should be pointed out that PA scores tended to increase between T_1 and T_4 (especially between T_3 and T_4); and this suggests that fifth graders are more discriminating in their nominations than fourth graders. In addition, it appears that Non-Anglo females had higher PA than Non-Anglo males, although there are no sex differences in PA among Anglos.

15. Peer Rejection (PR)

The qualifying remarks made in connection with PA also apply to PR; and in this case there are significant increases in PR between T_3 and T_4, i.e., during fifth grade, but none between T_1 and T_2. Also, Anglo females and Non-Anglo males show significantly higher PR means between T_2 and T_3. The frequency of significant differences between T_2, T_3, and T_4 may reflect the increasing discrimination of children in nominating other children in fifth grade compared to fourth grade; and these differences, therefore, may be developmentally influenced.

16. MAT Nonverbal (NV)

With the exception of the Non-Anglo children, these results clearly follow the rationale; and it is reasonable to conclude that MAT Nonverbal achievement is influenced by the in-school environment. (Although no one would expect any other result, it does serve to illustrate and support the rationale on which in-school and out-of-school influences are differentiated.) Generally, sex differences are slight, and Anglo and Non-Anglo differences follow expectations. The unexpected differences among Non-Anglos between T_2 and T_3 may be attributed to a change from the elementary level of the MAT (without an answer sheet) in the fourth grade, to the intermediate level of the MAT (with a machine scorable answer sheet) in the fifth grade. After diligent investigation it was discovered that guessing and responding to items which probably had not been read was more prevalent when an answer sheet was used than when test booklets, on which answers were marked, were used. In addition, this tendency was accentuated among Non-Anglos because of the relative difficulty of the intermediate level of the MAT as compared with the elementary level. The effects of guessing, of course, decreased as the children knew a larger proportion of the items. This probably accounts for the smaller gains in the fifth grade than in the fourth grade. The same problem also occurred with Anglo children; but since the switch was made in the Spring, 1965 (instead of the Fall, 1965), and the intermediate level was not as difficult for them, there appeared to be less guessing, and the major effect of guessing and filling in occurred at T_2. This appears to adequately explain the discrepancies noted.

17. MAT Verbal (V)

The results for MAT Verbal achievement provide support for the basic rationale, and the qualifying remarks made in conjunction with the discussion of the MAT Nonverbal test also apply here (but apparently to a lesser degree). Obvious Anglo and Non-Anglo differences occur, as expected, and sex differences are slight.

18. CTMM Nonverbal IQ

As previously noted, the same form of the CTMM was given on all four occasions, so that improvement in intellectual functioning could be measured with the content held constant. There have been few studies of learning of this kind, and in view of the current controversy over racial and ethnic differences in intelligence, these results have an importance over and above their import for the rationale. However, it is obvious that increases in CTMM Nonverbal IQ are larger across the school year than across the summer months, as the rationale requires. Also, it is apparent that all four groups improved about the same number of IQ points, which supports the idea that improvement without specific instruction (incidental learning?) occurs in about the same degree among Non-Anglo children as among Anglo children. Perhaps the advantage of the Anglo children in learning from instruction by the teacher lies in skills required in such learning, e.g., the abilities to listen and to comprehand what is listened to.

19. CTMM Verbal IQ

The results for CTMM Verbal IQ do not fit the rationale quite as well as the results for CTMM Nonverbal IQ, and this is perhaps because verbal intellectual functioning is more dependent on the out-of-school environment than nonverbal intellectual functioning. And, of course, this is generally in agreement with studies of culturally deprived children (see Chapter 1). Also, sex differences, in favor of girls, occur among Anglo children; but they are much less pronounced among Non-Anglo children. This, too, is not surprising in relation to what the psychological and educational literature shows.

20. Proneness toward Neuroticism (PTN)

Sex differences in PTN are observable only among Non-Anglo children, where girls have higher scores than boys; and this difference is perhaps a reflection of the greater "liberation" of females in Anglo than in Non-Anglo families, as indicated in a wide variety of psychological studies (see Chapter 1). There is also a significant decrease during the fourth and fifth grades for Anglo females, as well as a significant decrease in PTN in fourth grade for both Non-Anglo males and females. There is some evidence, therefore, that PTN tends to be lowered by in-school influences.

21. Sex-linked Interests and Attitudes (S)

Sex-linked interests and attitudes generally follow the pattern required by the rationale, i.e., they increase across both school years and decrease across the summer months. The difference between the sexes occurs because all scores are in the masculine direction. Thus, all groups show an increase in masculine interests and attitudes during both school years. Just how this should be interpreted, however, is not clear from these data alone.

22. Grade Point Average (GPA)

Teacher grades generally conform with expectations of the rationale, increasing across the school year and decreasing across the summer months. This trend, however, may be partially (if not entirely) the result of the proclivity of some teachers to "grade low" at the beginning of the school year so as to "challenge" children to work harder and to have a feeling of progress. Generally, also, girls get better grades than boys and Anglo children get better grades than Non-Anglo children which is relevant to the earlier discussion of success and failure in school.

Analyses for Children Classified by Low and High School Anxiety and School Motivation

In this section we want to find out what happens, under the "treatment" conditions represented by T_1, T_2, T_3, and T_4, to Anglo and Non-Anglo children who differ in school anxiety and school motivation. To obtain these subsamples we first determined the median school anxiety and school motivation scores on each of the four occasions. Then we selected all children whose school anxiety scores were above the median on three of the four occasions. After this we did the same thing for the school motivation scores and then repeated the process in selecting children whose school anxiety or school motivation scores were below the median on three of the four occasions. In a few instances children who did not have all four scores were selected if two of their three scores were well above, or well below, the median. From these children we then formed a series of subsamples made up of Anglo children and a series made up of Non-Anglo children. These subsamples consisted of children high in school anxiety and low in school motivation (Hi Anx - Lo Mot), high in school anxiety and high in school motivation (Hi Anx - Hi Mot), low in school anxiety and low in school motivation (Lo Anx - Lo Mot), and low in school anxiety and high in school motivation (Lo Anx - Hi Mot). We then performed a level (of school anxiety and school motivation) by treatments (with and without the in-school influence) analysis of variance for each of the major variables referred to in previous analyses, using the discussion by Edwards (1964, Chapter 14) as our guide. These results are presented in Tables 35 and 36.

The general logic for doing these analyses rests upon the McClelland-Atkinson conception of approach and avoidance motivation as discussed in Chapter 1. However, where they use test anxiety as a measure of the need to avoid failure, we use school anxiety (which is substantially correlated with the TASC); and where they use a projective test to measure the need to achieve success, we substitute a measure of school

TABLE 35.

T X S ANALYSES OF VARIANCE FOR ANGLO CHILDREN CLASSIFIED BY SCHOOL ANXIETY AND SCHOOL MOTIVATION

```
GROUP 1    23 SUBJECTS.       ANGLO HI ANX LO MO   1

GROUP 2    65 SUBJECTS.       ANGLO LO ANX  HI MO    2

GROUP 3    21 SUBJECTS.       ANGLO HI ANX  HI MO   3

GROUP 4    31 SUBJECTS.       ANGLO LO ANX  LO MO    4

TOTAL =   140 SUBJECTS.

DEGREES OF FREEDOM

   3 AND    136 FOR GROUPS.

   3 AND    408 FOR TREATMENTS.

   9 AND    408 FOR INTERACTION.


SCHOOL ANXIETY (SA)
GROUPS F RATIO = 132.682      P =    0

MEANS.        38.6630     14.3846     41.9524     12.9516

TREATMENTS F RATIO =  11.626       P = .0000

MEANS.        25.3429     23.1571     19.2071     21.0571

INTERACTION F RATIO =     .894       P = .5316

GROUP  1      40.0435     42.2609     34.0870     38.2609

GROUP  2      18.4000     14.6615     11.1538     13.3231

GROUP  3      43.9048     41.8571     42.1429     39.9048

GROUP  4      16.4194     14.1290      9.5161     11.7419

SEX-LINKED INTERESTS, ATTITUDES (S)

GROUPS F RATIO =     .908       P = .5588

MEANS.         8.0978      8.0577      7.8571      9.0081

TREATMENTS F RATIO =  24.356       P = .0000
```

```
MEANS.          7.0786     8.7000     8.4429     8.7571
INTERACTION F RATIO =    2.559       P = .0074
GROUP  1        7.7391     8.6522     8.5652     7.4348
GROUP  2        6.6308     8.4769     8.3077     8.8154
GROUP  3        6.8571     7.8095     7.6667     9.0952
GROUP  4        7.6774     9.8065     9.1613     9.3871
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
GROUPS F RATIO =    5.123       P = .0026
MEANS.          4.7283     3.4462     4.2619     3.8871
TREATMENTS F RATIO =   9.000       P = .0001
MEANS.          3.3214     4.1143     3.7071     4.3643
INTERACTION F RATIO =    1.696       P = .0874
GROUP  1        3.7826     5.0870     4.6522     5.3913
GROUP  2        3.0769     3.7692     3.3846     3.5538
GROUP  3        3.4762     3.9048     3.9048     5.7619
GROUP  4        3.3871     4.2581     3.5484     4.3548
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
GROUPS F RATIO =  21.504       P = .0000
MEANS.         13.7283    12.3462    15.4881    10.9839
TREATMENTS F RATIO =   4.368       P = .0052
MEANS.         13.1071    13.1071    12.5071    12.2500
INTERACTION F RATIO =    1.086       P = .3718
GROUP  1       14.2174    14.6522    13.2609    12.7826
GROUP  2       12.8000    12.5231    12.1385    11.9231
GROUP  3       15.0952    15.3810    15.9524    15.5238
GROUP  4       11.5806    11.6452    10.3871    10.3226
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
GROUPS F RATIO =    4.528       P = .0050
MEANS.         12.8696    14.1962    13.8214    12.0081
```

```
TREATMENTS F RATIO =   19.040       P = .0000

MEANS.          14.5429     13.8786     12.9143     12.4143

INTERACTION F RATIO =    1.069       P = .3849

GROUP  1        14.5217     13.4348     12.3043     11.2174

GROUP  2        15.0462     14.6769     13.6769     13.3846

GROUP  3        14.2381     13.9524     13.6667     13.4286

GROUP  4        13.7097     12.4839     11.2581     10.5806
GROUP 1     29 SUBJECTS.

GROUP 2     67 SUBJECTS.

GROUP 3     27 SUBJECTS.

GROUP 4     33 SUBJECTS.
```

CTMM NONVERBAL (NV)

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

TOTAL           239.3794       623.

BETWEEN         709.3782       155.

 GROUPS        9584.8957         3.        17.942       0.0000

 ERROR (G)      534.2035       152.

WITHIN           83.7174       468.

 TRIALS        3875.4167         3.        66.503       0.0000

 G BY T         108.9514         9.         1.870       0.0540

 ERROR (T)       58.2740       456.

G MEAN             1            2            3            4
              104.0086     118.3134     114.0093     103.1742

T MEAN             1            2            3            4
              104.8269     113.1474     112.1538     116.6987

G BY T             1            2            3            4
      1        99.8276     104.2069     102.8621     109.1379
      2       109.5224     120.6866     119.3134     123.7313
      3       109.3333     113.7407     115.4074     117.5556
      4        96.0000     105.2121     103.1212     108.3636
```

CTMM VERBAL (V)

```
SOURCE      MEAN SQUARE       D.F.      F-RATIO         P

TOTAL          235.4738       623.

BETWEEN        787.7625       155.

 GROUPS      11006.5207         3.       18.780       0.0000

 ERROR (G)     586.0765       152.

WITHIN          52.5577       468.

 TRIALS       1055.7917         3.       23.498       0.0000

 G BY T        104.5625         9.        2.327       0.0144

 ERROR (T)      44.9311       456.


G MEAN            1            2            3            4
               99.6121     116.3694     113.1481     101.9091


T MEAN            1            2            3            4
              106.1923     111.7628     109.0641     111.5321


G BY T            1            2            3            4

   1           97.7931     102.1724      97.5172     100.9655

   2          112.0448     118.3731     117.6269     117.4328

   3          111.8889     114.5926     110.2593     115.8519

   4           97.0303     104.4545     100.8485     105.3030
```

```
GROUP 1     30 SUBJECTS.      ANGLO HI ANX LO MO   1

GROUP 2     71 SUBJECTS.      ANGLO LO ANX  HI MO     2

GROUP 3     28 SUBJECTS.      ANGLO HI ANX  HI MO   3

GROUP 4     32 SUBJECTS.      ANGLO LO ANX  LO MO    4

TOTAL =    161 SUBJECTS.


DEGREES OF FREEDOM

    3 AND   157 FOR GROUPS.

    3 AND   471 FOR TREATMENTS.

    9 AND   471 FOR INTERACTION.
```

GRADE POINT AVERAGE (GPA)

```
GROUPS F RATIO =  42.046      P = .0000

MEANS.          10.4583    15.0035    14.8125    11.6719

TREATMENTS F RATIO =  10.344      P = .0000

MEANS.          13.1553    13.9876    13.1180    13.5839

INTERACTION F RATIO =     .354      P = .9555

GROUP  1        10.4000    10.9667    10.0333    10.4333

GROUP  2        14.5352    15.6056    14.7042    15.1690

GROUP  3        14.5714    15.1071    14.4643    15.1071

GROUP  4        11.4375    12.2500    11.3125    11.6875
GROUP 1     46 SUBJECTS.

GROUP 2     54 SUBJECTS.

GROUP 3     26 SUBJECTS.

GROUP 4     23 SUBJECTS.
```

SCHOOL MOTIVATION (SM)

```
SOURCE       MEAN SQUARE      D.F.      F-RATIO        P

TOTAL            55.7814      595.

BETWEEN         170.1128      148.

 GROUPS         809.4635        3.        5.160      0.0024

 ERROR (G)      156.8848      145.

WITHIN           17.9267      447.

 TRIALS          16.0651        3.        0.889      0.5509

 G BY T          11.4601        9.        0.634      0.7694

 ERROR (T)       18.0734      435.


G MEAN             1            2            3            4
               23.9185      27.3333      23.2212      28.3152


T MEAN             1            2            3            4
               26.1678      25.7114      25.5705      25.4027


G BY T             1            2            3            4

     1         24.1739      23.8043      23.8261      23.8696

     2         27.8704      27.3333      27.2593      26.8704

     3         24.5769      23.7308      22.6154      21.9615

     4         27.9565      27.9565      28.4348      28.9130
```

```
   GROUP 1     33 SUBJECTS.        HI ANX   LO MO

   GROUP 2     75 SUBJECTS.        LO ANX   HI MO

   GROUP 3     31 SUBJECTS.        HI ANX   HI MO

   GROUP 4     39 SUBJECTS.        LO ANX   LO MO


FEELINGS OF INFERIORITY (FI)

   SOURCE     MEAN SQUARE     D.F.     F-RATIO        P

   TOTAL           1.6371     711.

   BETWEEN         2.4647     177.

    GROUPS        10.7300       3.       4.621     0.0042

    ERROR (G)      2.3222     174.

   WITHIN          1.3628     534.

    TRIALS        10.6793       3.       8.160     0.0001

    G BY T         1.3985       9.       1.069     0.3843

    ERROR (T)      1.3087     522.


   G MEAN          1           2           3           4
                1.8561      1.4300      1.1774      1.5833


   T MEAN          1           2           3           4
                1.2022      1.4270      1.5843      1.7809


   G BY T          1           2           3           4
      1         1.4242      1.6061      2.1212      2.2727

      2         1.1600      1.3200      1.4133      1.8267

      3         1.0968      1.0645      1.2258      1.3226

      4         1.1795      1.7692      1.7436      1.6410
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)
   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            1.4007      711.

   BETWEEN          2.9628      177.

    GROUPS         28.2881        3.       11.198      0.0000

    ERROR (G)       2.5261      174.

   WITHIN           0.8830      534.

    TRIALS          6.4494        3.        7.564      0.0002

    G BY T          0.7878        9.        0.924      0.5043

    ERROR (T)       0.8526      522.

   G MEAN             1           2           3           4
                  1.7955      1.1833      1.2742      1.9872

   T MEAN             1           2           3           4
                  1.2921      1.3933      1.5393      1.7303

   G BY T             1           2           3           4
        1         1.6061      1.5758      1.9394      2.0606
        2         1.0800      1.1200      1.2400      1.2933
        3         1.0645      1.2581      1.2903      1.4839
        4         1.6154      1.8718      1.9744      2.4872


NEUROTIC SYMPTOMS, SOCIAL (NS)
   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            1.4952      711.

   BETWEEN          2.3015      177.

    GROUPS         10.2339        3.        4.727      0.0038

    ERROR (G)       2.1648      174.

   WITHIN           1.2280      534.

    TRIALS          9.4209        3.        7.944      0.0001

    G BY T          0.9371        9.        0.790      0.6269

    ERROR (T)       1.1859      522.

   G MEAN             1           2           3           4
                  1.6742      1.3967      1.3145      1.8590
```

```
T MEAN          1          2          3          4
           1.2697     1.4157     1.7247     1.7303

G BY T          1          2          3          4
   1       1.5152     1.7879     1.7576     1.6364
   2       1.0933     1.2267     1.5600     1.7067
   3       1.1290     1.1613     1.4194     1.5484
   4       1.5128     1.6667     2.2564     2.0000
```

AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)

```
SOURCE       MEAN SQUARE     D.F.     F-RATIO         P

TOTAL             1.8092     711.

BETWEEN           4.1349     177.

 GROUPS           9.4003       3.       2.324    0.0753

 ERROR (G)        4.0441     174.

WITHIN            1.0384     534.

 TRIALS           1.8483       3.       1.808    0.1431

 G BY T           1.6979       9.       1.661    0.0951

 ERROR (T)        1.0224     522.

G MEAN          1          2          3          4
           1.6364     1.3567     1.1613     1.7115

T MEAN          1          2          3          4
           1.3258     1.4382     1.5730     1.4719

G BY T          1          2          3          4
   1       1.3636     1.4242     2.1212     1.6364
   2       1.2400     1.3200     1.3333     1.5333
   3       1.1935     1.2581     1.0968     1.0968
   4       1.5641     1.8205     1.9487     1.5128
```

ACTIVE WITHDRAWAL (AW)

```
SOURCE       MEAN SQUARE     D.F.     F-RATIO         P

TOTAL             1.6283     711.

BETWEEN           3.2161     177.
```

```
 GROUPS          38.2243       3.       14.631      0.0000
 ERROR (G)        2.6125     174.
WITHIN            1.1021     534.
 TRIALS           0.9401       3.        0.861      0.5363
 G BY T           1.7524       9.        1.605      0.1101
 ERROR (T)        1.0918     522.

G MEAN            1            2          3           4
                2.1591       1.2433     1.2016      1.9295

T MEAN            1            2          3           4
                1.4494       1.6124     1.5843      1.5787

G BY T            1            2          3           4
   1            1.8485       2.3333     2.1515      2.3030
   2            1.1200       1.2533     1.2000      1.4000
   3            1.1613       1.4839     1.0645      1.0968
   4            1.9744       1.7949     2.2564      1.6923
```

EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)

```
SOURCE      MEAN SQUARE      D.F.     F-RATIO        P
TOTAL             1.2276     711.
BETWEEN           3.0851     177.
 GROUPS          25.3232       3.        9.373      0.0001
 ERROR (G)        2.7017     174.
WITHIN            0.6119     534.
 TRIALS           0.1475       3.        0.238      0.8704
 G BY T           0.3577       9.        0.578      0.8166
 ERROR (T)        0.6189     522.

G MEAN            1            2          3           4
                1.9015       1.1933     1.1855      1.8141

T MEAN            1            2          3           4
                1.4326       1.4551     1.4494      1.5000

G BY T            1            2          3           4
   1            1.8788       1.8485     1.8182      2.0606
```

```
       2          1.1867      1.1733      1.2133      1.2000

       3          1.1613      1.0645      1.2903      1.2258

       4          1.7436      1.9744      1.7179      1.8205
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
SOURCE        MEAN SQUARE      D.F.      F-RATIO           P

TOTAL              0.4086      711.

BETWEEN            0.8446      177.

 GROUPS            1.0849        3.        1.291      0.2783

 ERROR (G)         0.8405      174.

WITHIN             0.2640      534.

 TRIALS            1.3446        3.        5.277      0.0017

 G BY T            0.4416        9.        1.733      0.0783

 ERROR (T)         0.2548      522.

G MEAN              1           2           3           4
                  1.2045      1.2500      1.3790      1.1731

T MEAN              1           2           3           4
                  1.1180      1.2921      1.3034      1.2753

G BY T              1           2           3           4

       1          1.0909      1.3030      1.3333      1.0909

       2          1.0800      1.2667      1.3333      1.3200

       3          1.1935      1.3226      1.4516      1.5484

       4          1.1538      1.3077      1.1026      1.1282
```

DIFFUSE HYPERACTIVITY (DH)

```
SOURCE        MEAN SQUARE      D.F.      F-RATIO           P

TOTAL              0.6105      711.

BETWEEN            1.3139      177.

 GROUPS            1.4374        3.        1.096      0.3527

 ERROR (G)         1.3118      174.

WITHIN             0.3773      534.

 TRIALS            0.5037        3.        1.324      0.2645
 G BY T         0.1594         9.        0.419      0.9250

 ERROR (T)      0.3804       522.

G MEAN            1            2           3           4
               1.4015       1.2333      1.2258      1.3782

T MEAN            1            2           3           4
               1.2303       1.2865      1.3596      1.3034


G BY T            1            2           3           4

        1      1.2424       1.3939      1.5152      1.4545

        2      1.1467       1.2667      1.2667      1.2533

        3      1.2581       1.1290      1.2903      1.2258

        4      1.3590       1.3590      1.4615      1.3333
```

```
GROUP 1    32 SUBJECTS.

GROUP 2    71 SUBJECTS.

GROUP 3    28 SUBJECTS.

GROUP 4    37 SUBJECTS.
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

TOTAL            0.0635      671.

BETWEEN          0.1399      167.

 GROUPS          1.5069        3.       13.119     0.0000

 ERROR (G)       0.1149      164.

WITHIN           0.0382      504.

 TRIALS          1.2125        3.       39.043     0.0000

 G BY T          0.0390        9.        1.256     0.2580

 ERROR (T)       0.0311      492.

G MEAN           1          2          3          4
              1.1461     1.3250     1.2999     1.1577

T MEAN           1          2          3          4
              1.2071     1.1960     1.2201     1.3765

G BY T           1          2          3          4

    1         1.1050     1.1156     1.1409     1.2228

    2         1.2758     1.2638     1.2742     1.4863

    3         1.2614     1.2164     1.2757     1.4461

    4         1.1224     1.1200     1.1424     1.2459
```

PEER REJECTION

```
SOURCE        MEAN SQUARE      D.F.       F-RATIO         P

TOTAL              0.0905      671.

BETWEEN            0.1802      167.

 GROUPS            1.4458        3.         9.208       0.0001

 ERROR (G)         0.1570      164.

WITHIN             0.0608      504.

 TRIALS            0.7059        3.        12.754       0.0000

 G BY T            0.1440        9.         2.602       0.0063

 ERROR (T)         0.0554      492.

G MEAN               1           2            3            4
                 1.3690      1.1618       1.1681       1.2605

T MEAN               1           2            3            4
                 1.1960      1.1808       1.1988       1.3205

G BY T               1           2            3            4

    1            1.2875      1.2731       1.3141       1.6012

    2            1.1339      1.1208       1.1532       1.2390

    3            1.1936      1.1700       1.1489       1.1600

    4            1.2378      1.2241       1.2243       1.3557
```

```
GROUP 1     17 SUBJECTS.

GROUP 2     52 SUBJECTS.

GROUP 3     19 SUBJECTS.

GROUP 4     25 SUBJECTS.


PRONENESS TOWARD NEUROTICISM (PTN)

SOURCE      MEAN SQUARE     D.F.      F-RATIO       P

TOTAL           11.5708     451.

BETWEEN         27.9058     112.

 GROUPS        247.8892       3.       11.344     0.0000

 ERROR (G)      21.8512     109.

WITHIN           6.1740     339.

 TRIALS         73.7139       3.       13.673     0.0000

 G BY T         12.0977       9.        2.244     0.0190

 ERROR (T)       5.3914     327.

G MEAN            1           2          3          4
             10.9265      7.5962     10.1316     8.8100

T MEAN            1           2          3          4
              9.8230      9.0177      8.3274     8.0000

G BY T            1           2          3          4

     1       11.1176     11.7647      9.6471    11.1765

     2        9.3462      7.5192      7.0769     6.4423

     3       10.7368     10.5263      9.7895     9.4737

     4        9.2400      9.1200      8.9200     7.9600
```

TABLE 36.

T X S ANALYSES OF VARIANCE FOR NONANGLO CHILDREN CLASSIFIED BY SCHOOL ANXIETY AND SCHOOL MOTIVATION

```
GROUP 1     4C SUBJECTS.      NCN ANGLC  HI ANX  LC MO      5

GROUP 2     16 SUBJECTS.      NCN ANGLC  LO ANX  HI MO   6

GROUP 3     40 SUBJECTS.      NCN ANGLC   HI ANX      HI MC      7

GROUP 4     18 SUBJECTS.      NCN ANGLC  LO ANX  LO MO      8

TOTAL =   114 SUBJECTS.

DEGREES OF FREECCM
    3 AND   11C FCR GROUPS.
    3 AND   33C FCR TREATMENTS.
    9 AND   33C FCR INTERACTION.

SCHOOL ANXIETY (SA)
GROUPS F RATIO =  66.768     P = .0CCC
MEANS.         44.7813     18.2031     44.1937     16.7917
TREATMENTS F RATIC =  15.635      P = .0000
MEANS.         41.6053     37.2018     34.2018     32.6930
INTERACTICN F RATIO =     .694      P = .7156
GROUP  1       48.9250     46.025C     43.675C     40.5C00
GROUP  2       22.8125     20.375C     16.2500     13.3750
GROUP  3       5C.4000     44.925C     41.7750     39.6750
GROUP  4       22.5C00     15.3889     12.2778     17.0C00

SEX-LINKED INTERESTS, ATTITUDES (S)

GROUPS F RATIO =    4.184     P = .0C78

MEANS.          7.7375      8.3281      6.3312      8.3333

TREATMENTS F RATIC =  12.162      P = .0C00
```

```
MEANS.          6.6667     7.1053     7.5702     8.3421

INTERACTION F RATIO =     .860       P = .5618

GROUP  1        6.9500     7.3750     7.6500     8.9750

GROUP  2        7.9375     7.8750     8.3750     9.1250

GROUP  3        5.6750     5.8000     6.5500     7.3000

GROUP  4        7.1111     8.7222     8.9444     8.5556
```

SELF DISPARAGEMENT, IN RELATION TO PEERS (SD)

```
GROUPS F RATIO =    7.187      P = .0004

MEANS.          5.0437     3.4531     4.0437     4.1250

TREATMENTS F RATIO =   5.356       P = .0017

MEANS.          3.8158     4.6316     4.0351     4.8158

INTERACTION F RATIO =     .571       P = .8216

GROUP  1        4.2500     5.2250     4.9000     5.8000

GROUP  2        3.5000     3.3125     3.1875     3.8125

GROUP  3        3.7000     4.5250     3.5250     4.4250

GROUP  4        3.3889     4.7222     4.0000     4.3889
```

AVOIDANCE STYLE OF DEFENSIVENESS (DA_V)

```
GROUPS F RATIO =  22.081       P = .0000

MEANS.         13.8000    11.5781    14.6125    10.9444

TREATMENTS F RATIO =   6.150       P = .0007

MEANS.         14.2105    12.8596    13.2456    12.9737

INTERACTION F RATIO =    1.288       P = .2417

GROUP  1       14.4750    12.8500    14.0750    13.8000

GROUP  2       12.5625    12.2500    11.2500    10.2500

GROUP  3       15.4250    14.2500    14.6500    14.1250

GROUP  4       12.3889    10.3333    10.0556    11.0000
```

APPROACH STYLE OF DEFENSIVENESS (DA_P)

```
GROUPS F RATIO =    4.758      P = .0041

MEANS.         14.3187    13.7500    15.0750    12.9028
```

```
TREATMENTS F RATIC =    9.814       P = .CCOO

MEANS.         15.3246     14.4211     14.0351     13.3421

INTERACTICN F RATIC =   1.177       P = .3084

GROUP  1       15.1250     14.2500     14.1500     13.7500

GROUP  2       14.1250     15.125C     13.8750     11.8750

GROUP  3       16.3250     14.9500     14.9750     14.0500

GROUP  4       14.6111     13.000C     11.8333     12.1667
```

```
    GROUP 1      34 SUBJECTS.
    GROUP 2      17 SUBJECTS.
    GROUP 3      34 SUBJECTS.
    GROUP 4      19 SUBJECTS.

CTMM NONVERBAL (NV)

    SOURCE       MEAN SQUARE       D.F.       F-RATIO        P

    TOTAL           278.6446       415.

    BETWEEN         825.1092       103.

     GROUPS        8421.0207         3.        14.100      0.0000

     ERROR (G)      597.2319       100.

    WITHIN           98.2412       312.

     TRIALS        2818.5000         3.        38.740      0.0000

     G BY T          41.0729         9.         0.565      0.8266

     ERROR (T)       72.7536       300.

    G MEAN             1            2            3           4
                  81.3015      103.4706      94.6912     91.9474

    T MEAN             1            2            3           4
                  84.5481       91.7308      91.4519     97.2596

    G BY T             1            2            3           4

         1        75.8529       81.1176      81.7941     86.4412

         2        95.0588      103.9412     104.8824    110.0000

         3        87.2059       95.2059      94.1765    102.1765

         4        85.9474       93.5789      91.8421     96.4211
```

CTMM VERBAL (V)

```
 SOURCE       MEAN SQUARE        D.F.       F-RATIO           P
 TOTAL           200.3276        415.
 BETWEEN         688.9511        103.
  GROUPS        5494.6458          3.        10.086        0.0000
  ERROR (G)      544.7803        100.
 WITHIN           39.0192        312.
  TRIALS         182.3958          3.         4.953        0.0027
  G BY T          64.3507          9.         1.747        0.0775
  ERROR (T)       36.8255        300.

 G MEAN             1              2             3             4
                80.8971        96.9118       93.6544       86.7763

 T MEAN             1              2             3             4
                87.8173        89.6827       87.4423       90.0962

 G BY T             1              2             3             4

      1         81.5000        82.5294       79.5000       80.0588
      2         94.2353        97.6471       96.8235       98.9412
      3         91.3824        94.0000       92.4118       96.8235
      4         87.0000        87.6316       84.3684       88.1053
```

```
GROUP 1    42 SUBJECTS.       NON ANGLO  HI ANX  LO MO      5

GROUP 2    21 SUBJECTS.       NON ANGLO  LO ANX  HI MO   6

GROUP 3    40 SUBJECTS.       NON ANGLO   HI ANX     HI MO      7

GROUP 4    19 SUBJECTS.       NON ANGLO  LO ANX  LO MO      8

TOTAL =   122 SUBJECTS.


DEGREES OF FREEDOM

   3 AND    118 FOR GROUPS.

   3 AND    354 FOR TREATMENTS.

   9 AND    354 FOR INTERACTION.
```

GRADE POINT AVERAGE (GPA)

```
GROUPS F RATIO =   27.194      P = .0000

MEANS.          9.2500     13.6667     12.5625     10.3816

TREATMENTS F RATIO =   15.392       P = .0000

MEANS.         10.5574     11.4180     11.0656     12.0492

INTERACTION F RATIO =    1.948       P = .0440

GROUP  1        8.5952      9.2143      9.1667     10.0238

GROUP  2       13.1429     14.1429     13.5238     13.8571

GROUP  3       11.4500     12.5750     12.2250     14.0000

GROUP  4       10.1579     10.8421     10.1053     10.4211
GROUP 1     31 SUBJECTS.

GROUP 2     29 SUBJECTS.

GROUP 3     34 SUBJECTS.

GROUP 4     38 SUBJECTS.


SCHOOL MOTIVATION (SM)

SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

TOTAL           57.8855      527.

BETWEEN        156.8621      131.

 GROUPS        324.6406        3.        2.123      0.0991

 ERROR (G)     152.9298      128.

WITHIN          25.1433      396.

 TRIALS          0.3555        3.        0.015      0.9971

 G BY T         78.5317        9.        3.261      0.0010

 ERROR (T)      24.0857      384.

G MEAN             1            2            3            4
             23.1129      25.2069      23.9779      26.6316

T MEAN             1            2            3            4
             24.8561      24.7348      24.8258      24.8182

G BY T             1            2            3            4

    1        23.3226      20.5161      23.1935      25.4194

    2        25.6207      26.0690      26.4138      22.7241

    3        24.0000      23.9706      23.7941      24.1471

    4        26.2895      27.8421      25.8684      26.5263
```

```
  GROUP 1    51 SUBJECTS.                       HI ANX   LO MO

  GROUP 2    23 SUBJECTS.                       LO ANX   HI MO

  GROUP 3    47 SUBJECTS.                       HI ANX   HI MO

  GROUP 4    25 SUBJECTS.                       LO ANX   LO MO


FEELINGS OF INFERIORITY (FI)

  SOURCE      MEAN SQUARE      D.F.      F-RATIO       P

  TOTAL            1.3974      583.

  BETWEEN          1.9013      145.

   GROUPS          1.1424        3.        0.596     0.6229

   ERROR (G)       1.9173      142.

  WITHIN           1.2306      438.

   TRIALS          1.3288        3.        1.106     0.3464

   G BY T          2.6004        9.        2.165     0.0233

   ERROR (T)       1.2010      426.

  G MEAN             1          2           3          4
                 1.4559     1.5652      1.3723     1.3300

  T MEAN             1          2           3          4
                 1.2945     1.5205      1.4247     1.4589

  G BY T             1          2           3          4
       1         1.4510     1.4902      1.3529     1.5294
       2         1.1304     2.2174      1.5652     1.3478
       3         1.3191     1.3404      1.2340     1.5957
       4         1.0800     1.2800      1.8000     1.1600
```

```
NEUROTIC SYMPTOMS, ACADEMIC (NA)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            1.9894      583.

   BETWEEN          2.9800      145.

    GROUPS          1.2690        3.        0.421     0.7422

    ERROR (G)       3.0161      142.

   WITHIN           1.6615      438.

    TRIALS          4.0108        3.        2.443     0.0624

    G BY T          1.8078        9.        1.101     0.3603

    ERROR (T)       1.6419      426.

   G MEAN             1           2           3          4
                   1.7059      1.4674      1.6170     1.5800

   T MEAN             1           2           3          4
                   1.3836      1.7740      1.6575     1.6575

   G BY T             1           2           3          4

      1            1.5294      2.0392      1.7059     1.5490

      2            1.2609      1.5652      1.4348     1.6087

      3            1.4681      1.6596      1.4894     1.8511

      4            1.0400      1.6400      2.0800     1.5600

NEUROTIC SYMPTOMS, SOCIAL (NS)

   SOURCE      MEAN SQUARE      D.F.      F-RATIO        P

   TOTAL            2.2826      583.

   BETWEEN          3.2691      145.

    GROUPS          8.6905        3.        2.755     0.0438

    ERROR (G)       3.1545      142.

   WITHIN           1.9561      438.

    TRIALS          1.7003        3.        0.870     0.5407

    G BY T          2.0796        9.        1.064     0.3886

    ERROR (T)       1.9552      426.

   G MEAN             1           2           3          4
                   1.6814      1.5109      1.3830     1.9900
```

```
T MEAN          1            2            3            4
           1.5068       1.5685       1.7603       1.6096

G BY T          1            2            3            4
   1       1.6667       1.5882       1.7059       1.7647
   2       1.2609       1.8261       1.4783       1.4783
   3       1.3617       1.3830       1.4468       1.3404
   4       1.6800       1.6400       2.7200       1.9200


AGGRESSION WITH INDEPENDENCE STRIVINGS (AI)
SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

TOTAL            2.5728        583.

BETWEEN          5.5272        145.

 GROUPS          3.5087          3.         0.630      0.6007

 ERROR (G)       5.5698        142.

WITHIN           1.5947        438.

 TRIALS          0.7237          3.         0.449      0.7221

 G BY T          1.1165          9.         0.693      0.7169

 ERROR (T)       1.6110        426.

G MEAN          1            2            3            4
           1.5343       1.6087       1.5372       1.2000

T MEAN          1            2            3            4
           1.4863       1.5822       1.4110       1.4795

G BY T          1            2            3            4
   1       1.6863       1.6078       1.4314       1.4118
   2       1.7826       1.9130       1.2174       1.5217
   3       1.3617       1.5745       1.5745       1.6383
   4       1.0400       1.2400       1.2400       1.2800


ACTIVE WITHDRAWAL (AW)
SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

TOTAL            1.9396        583.

BETWEEN          3.4846        145.
```

```
 GROUPS          18.2572        3.         5.755     0.0013

 ERROR (G)        3.1725      142.

WITHIN            1.4281      438.

 TRIALS           1.8744        3.         1.307     0.2706

 G BY T           0.9885        9.         0.689     0.7204

 ERROR (T)        1.4342      426.

G MEAN           1          2          3          4
              1.8971     1.3804     1.3670     2.1100

T MEAN           1          2          3          4
              1.6849     1.6370     1.5685     1.8356

G BY T           1          2          3          4

   1          2.0980     1.7059     1.7451     2.0392

   2          1.2609     1.4783     1.3478     1.4348

   3          1.3191     1.2553     1.3404     1.5532

   4          1.9200     2.3600     1.8400     2.3200


EMOTIONAL DISTURBANCE WITH DEPRESSION (ED)
SOURCE       MEAN SQUARE        D.F.      F-RATIO        P

TOTAL             0.5558      583.

BETWEEN           0.8692      145.

 GROUPS           1.9441        3.         2.297     0.0789

 ERROR (G)        0.8464      142.

WITHIN            0.4521      438.

 TRIALS           0.3059        3.         0.690     0.5620

 G BY T           0.9100        9.         2.052     0.0323

 ERROR (T)        0.4434      426.

G MEAN           1          2          3          4
              1.4118     1.1196     1.2819     1.3600

T MEAN           1          2          3          4
              1.2877     1.3767     1.2740     1.3219

G BY T           1          2          3          4

   1          1.3922     1.6078     1.3529     1.2941
```

```
      2          1.1304      1.2609      1.0435      1.0435

      3          1.3191      1.2128      1.1277      1.4681

      4          1.1600      1.3200      1.6000      1.3600
```

SELF ENHANCEMENT, THROUGH DEROGATION OF OTHERS (SE)

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO        P

TOTAL             0.3179       583.

BETWEEN           0.5299       145.

 GROUPS           1.3454         3.          2.624      0.0519

 ERROR (G)        0.5127       142.

WITHIN            0.2477       438.

 TRIALS           0.6849         3.          2.816      0.0380

 G BY T           0.3142         9.          1.292      0.2384

 ERROR (T)        0.2432       426.


G MEAN             1            2             3            4
                 1.1618      1.2935      1.2819      1.0700


T MEAN             1            2             3            4
                 1.1849      1.2945      1.1301      1.2123


G BY T             1            2             3            4

      1          1.1176      1.2745      1.0784      1.1765

      2          1.0870      1.4348      1.3478      1.3043

      3          1.3830      1.3617      1.1064      1.2766

      4          1.0400      1.0800      1.0800      1.0800
```

DIFFUSE HYPERACTIVITY (DH)

```
SOURCE       MEAN SQUARE       D.F.       F-RATIO        P

TOTAL             0.6829       583.

BETWEEN           1.1268       145.

 GROUPS           0.9307         3.          0.823      0.5140

 ERROR (G)        1.1309       142.

WITHIN            0.5360       438.

 TRIALS           0.9469         3.          1.785      0.1478
 G BY T            0.6551        9.          1.235      0.2709

 ERROR (T)         0.5305      426.

G MEAN              1            2            3            4
                 1.3431       1.4130       1.2181       1.3000

T MEAN              1            2            3            4
                 1.2466       1.2397       1.3288       1.4110


G BY T              1            2            3            4

    1            1.2941       1.1373       1.3529       1.5882

    2            1.4348       1.3043       1.5217       1.3913

    3            1.0851       1.3404       1.1489       1.2979

    4            1.2800       1.2000       1.4400       1.2800
```

```
GROUP 1     49 SUBJECTS.
GROUP 2     22 SUBJECTS.
GROUP 3     44 SUBJECTS.
GROUP 4     21 SUBJECTS.
```

PEER ACCEPTANCE

```
SOURCE      MEAN SQUARE      D.F.       F-RATIO        P
TOTAL            0.0485      543.
BETWEEN          0.0945      135.
 GROUPS          0.6168        3.         7.464     0.0003
 ERROR (G)       0.0826      132.
WITHIN           0.0333      408.
 TRIALS          0.2269        3.         7.204     0.0003
 G BY T          0.0485        9.         1.540     0.1312
 ERROR (T)       0.0315      396.

G MEAN             1            2            3            4
              1.1951       1.3157       1.3126       1.2017

T MEAN             1            2            3            4
              1.2391       1.2189       1.2437       1.3127

G BY T             1            2            3            4
     1        1.1963       1.1716       1.1902       1.2220
     2        1.2236       1.3059       1.2836       1.4495
     3        1.2959       1.2691       1.3136       1.3718
     4        1.2362       1.1329       1.1805       1.2571
```

PEER REJECTION

```
   SOURCE       MEAN SQUARE       D.F.       F-RATIO          P

   TOTAL              0.0747      543.

   BETWEEN            0.1373      135.

    GROUPS            0.2653        3.        1.975       0.1194

    ERROR (G)         0.1344      132.

   WITHIN             0.0540      408.

    TRIALS            0.4300        3.        8.235       0.0001

    G BY T            0.0095        9.        0.182       0.9951

    ERROR (T)         0.0522      396.

   G MEAN             1              2            3            4
                  1.3011       1.1875       1.2561       1.2567

   T MEAN             1              2            3            4
                  1.2301       1.2198       1.2521       1.3432

   G BY T             1              2            3            4

        1         1.2590       1.2463       1.3043       1.3947

        2         1.1623       1.1714       1.1695       1.2468

        3         1.2286       1.2159       1.2327       1.3470

        4         1.2367       1.2167       1.2576       1.3157
```

```
GROUP 1   27 SUBJECTS.
GROUP 2   16 SUBJECTS.
GROUP 3   30 SUBJECTS.
GROUP 4   13 SUBJECTS.

PRONENESS TOWARD NEUROTICISM (PTN)
  SOURCE     MEAN SQUARE     D.F.      F-RATIO        P
  TOTAL          9.8221      343.
  BETWEEN       22.8673       85.
   GROUPS      112.6050        3.        5.750     0.0016
   ERROR (G)    19.5843       82.
  WITHIN         5.5242      258.
   TRIALS       24.4061        3.        4.641     0.0039
   G BY T        6.4718        9.        1.231     0.2760
   ERROR (T)     5.2593      246.

  G MEAN           1           2           3           4
               10.9630      8.9219     10.9333      8.7692

  T MEAN           1           2           3           4
               11.0349     10.0581      9.9070      9.9651

  G BY T           1           2           3           4
       1       11.2222     10.6296     10.7778     11.2222
       2        9.4375      9.3750      8.3750      8.5000
       3       12.3667     10.3667     10.8333     10.1667
       4        9.5385      9.0000      7.8462      8.6923
```

motivation based on teacher ratings. However, in defense of this latter decision, two things should be pointed out: first, Winterbottom (1958) has reported that children who are strong in achievement motivation are rated by teachers as deriving more pleasure from success, and this is to some degree what was rated by teachers in school motivation; second, there is a negligible correlation between school anxiety and school motivation, and this is consistent with the assumption usually made about the need to achieve success and the need to avoid failure.

Group Differences on the Variables. To summarize the results of the group differences shown in Tables 35 and 36, it should be noted, first, that children classified by school motivation and school anxiety generally differ on the variables studied; and second, that there are several instances of different results for Anglo compared to Non-Anglo groups. Taking these latter differences as the basis of discussion, Anglo children (classified according to SA and SM) do not differ significantly on S, SE, AI, and DH; whereas Non-Anglo children (classified on the basis of SA and SM) do not differ significantly on FI, NA, ED, SE, DH, and PR. And, since only two of the variables on which Anglo groups do not differ involve classroom behavior and every one of the variables on which Non-Anglo groups do not differ involve classroom behavior, it would, therefore, appear that SA and SM are more significant in the classroom behavior of Anglo than Non-Anglo children. Of course, since these variables depend on teacher information, it is possible that teachers of Anglo classes were more sensitive and discriminating with respect to these behavioral characteristics.

Interactions of School Anxiety and School Motivation with In-School and Out-of-School Influences. Some of the most important data in this project concern the trends in the Anglo and Non-Anglo Hi Anx - Lo Mot, Lo Anx - Hi Mot, Hi Anx - Hi Mot, and Lo Anx - Lo Mot subsample means for each of the major variables across the in-school and out-of-school periods. In the next few pages we will present our findings in regard to these analyses. We have taken all interactions which are statistically significant at of beyond the .10 level, and have plotted the means in order to clearly show the nature of these interactions.

a. Anglo Children

Sex-Linked Interests, Attitudes (S). The means for S are shown graphically in Figure 8. The overall trend of the means for S is sharply upward between T_1 and T_2, slightly downward between T_2 and T_3, and somewhat upward between T_3 and T_4 (with one exception). As for the interactions, between T_1 and T_2, HA-HM and LA-LM have parallel upward trends, and LA-LM and LA-HM have parallel upward (but more sharply rising) trends. Between T_3 and T_4, LA-LM and LA-HM have parallel and somewhat upward trends, HA-HM has a sharply upward trend, and HA-LM has a sharply downward trend. This indicates that HA was not influenced by the presence of HM (or LM) in fourth grade; but in fifth grade HA accompanied by LM produced a down turn in S, while in the company of HM it turned up.

Proneness toward Neuroticism (PTN). The overall trend with respect to PTN, as shown in Figure 9, is a generally downward pattern in all three periods. The major exception to this occurred for HA-LM which moved sharply upward between T_1 and T_2, sharply downward between T_2 and T_3, and sharply upward again between T_3 and T_4. For the other three groups the change across the summer months was somewhat less than the changes across fourth and fifth grade. Also at T_1 there were two distinct groupings - HA-LM and HA-HM had similar means, and LA-LM and LA-HM had similar (but lower) means. During fourth grade, however, each set has diverged sharply, with HA-LM higher than HA-HM, and LA-LM higher than LA-HM. Furthermore, HA-LM and HA-HM come together at the end of the summer, but then HA-LM surged upward again during fifth grade. The LA-LM and LA-HM groups stayed about the same distance apart during the summer and then converged somewhat during fifth grade. It appears, therefore, that HA-LM Anglo children's PTN scores are associated with in-school influences. Also, the groups moved farther apart between T_1 and T_4.

Aggression with Independence Strivings (AI). There really is no overall trend discernable in the AI means, as Figure 10 shows. But, with regard to specific interactions between T_1 and T_2, LA-LM is the exception, since it moves upward more sharply. Between T_2 and T_3, pronounced differences occurred, as HA-LM moved strongly upward,

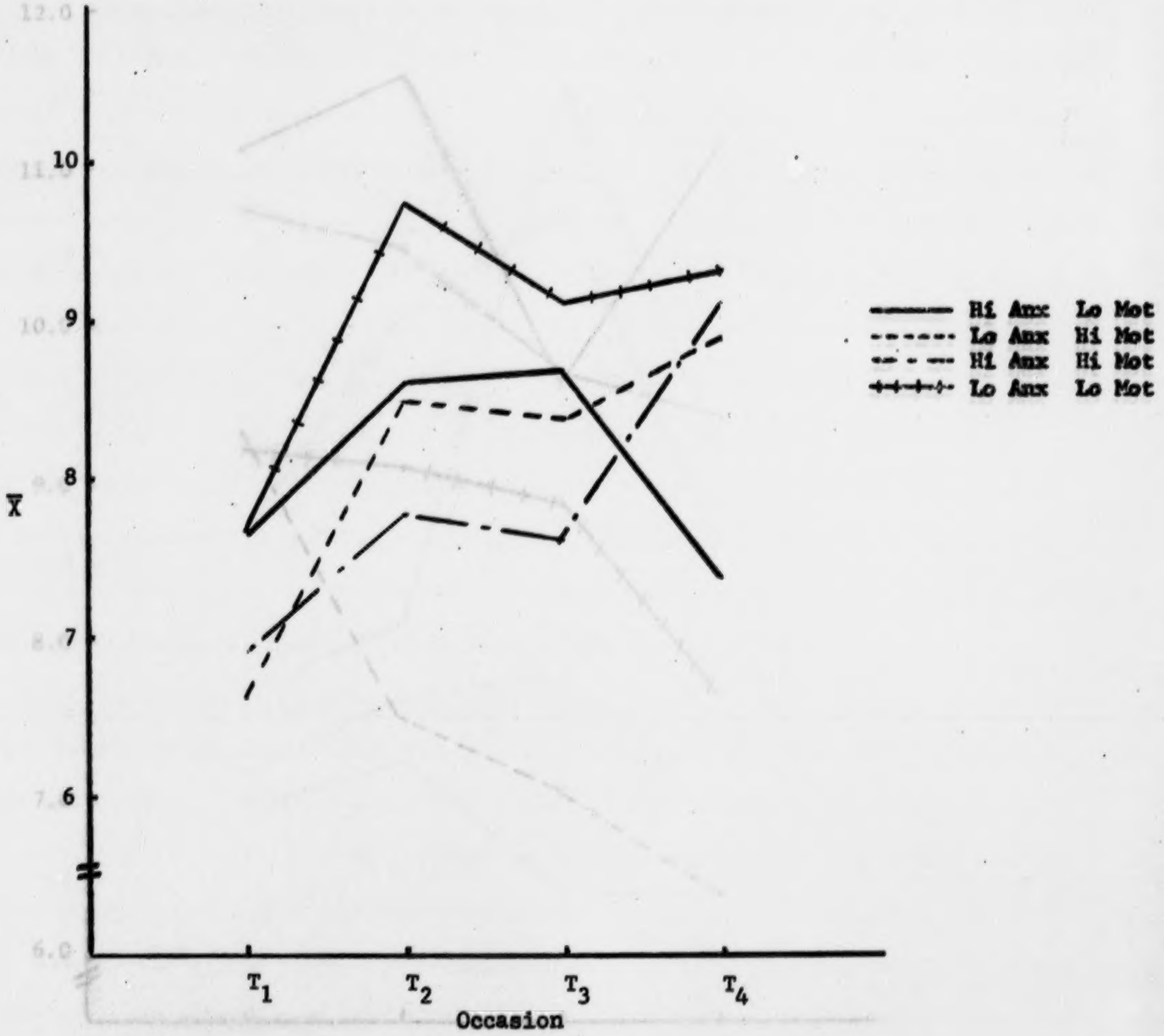

Figure 8. Anglo Interaction between High and Low School Anxiety and School Motivation and Sex-linked Interests, Attitudes (S), the interaction being significant beyond the .10 level.

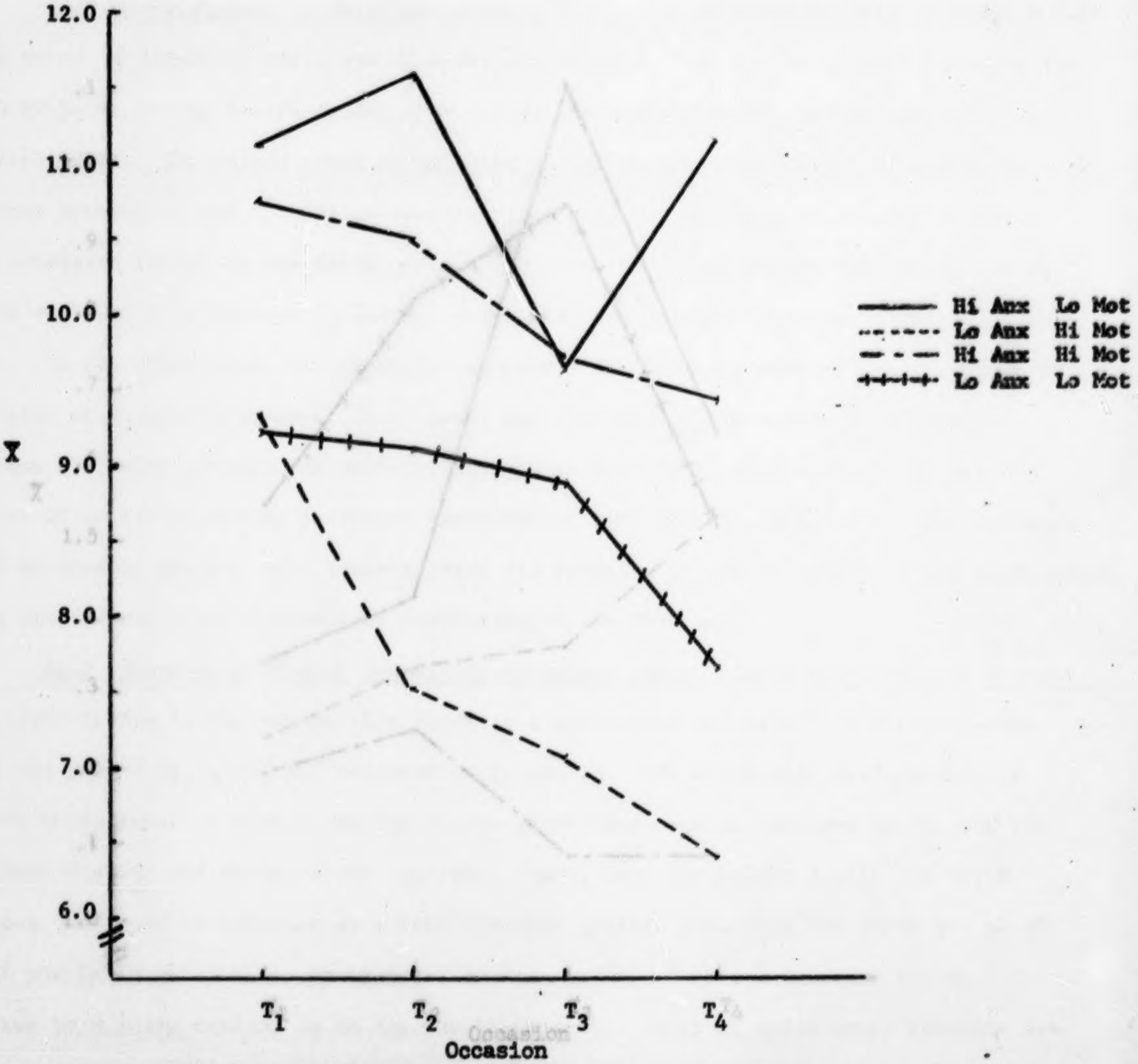

Figure 9. Anglo Interaction between High and Low School Anxiety and School Motivation and Proneness toward Neuroticism (PTN), the interaction being significant beyond the .10 level.

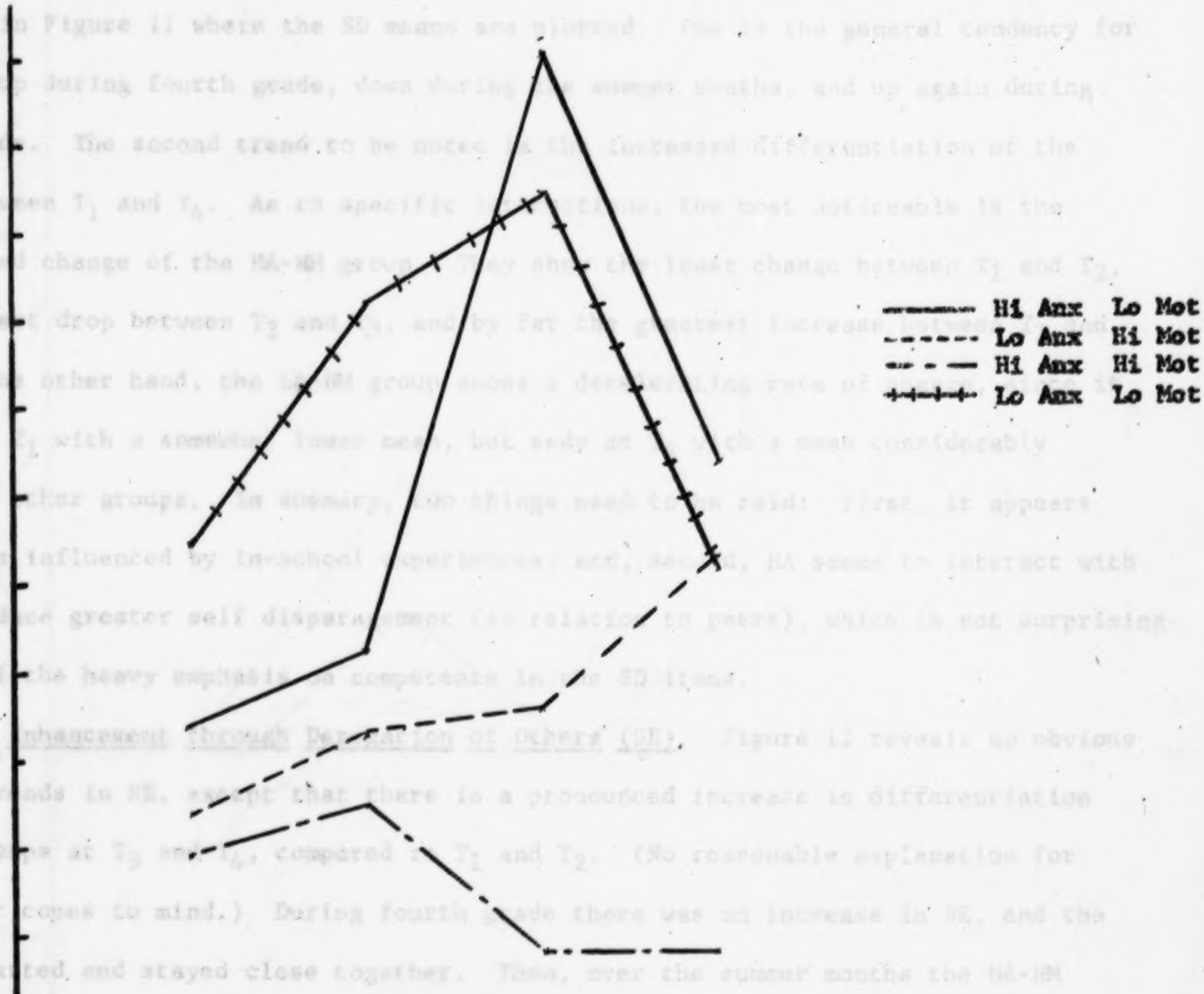

Figure 10. Anglo Interaction between High and Low School Anxiety and School Motivation and Aggression, with independence Strivings (AI), the interaction being significant beyond the .10 level.

HA-HM moved downward, and the remaining two groups moved upward. Between T_3 and T_4, HA-LM and LA-LM moved strongly downward, LA-HM moved upward, and there was no change in the LA-HM group.

Self Disparagement in Relation to Peers (SD). Two observable overall trends should be noted in Figure 11 where the SD means are plotted. One is the general tendency for SD to go up during fourth grade, down during the summer months, and up again during fifth grade. The second trend to be noted is the increased differentiation of the group between T_1 and T_4. As to specific interactions, the most noticeable is the accelerated change of the HA-HM group. They show the least change between T_1 and T_2, the smallest drop between T_2 and T_3, and by far the greatest increase between T_3 and T_4. On the other hand, the LA-HM group shows a decelerating rate of change, since it begins at T_1 with a somewhat lower mean, but ends at T_4 with a mean considerably below the other groups. In summary, two things need to be said: first, it appears that SD is influenced by in-school experiences; and, second, HA seems to interact with HM to produce greater self disparagement (in relation to peers), which is not surprising in view of the heavy emphasis on competence in the SD items.

Self Enhancement through Derogation of Others (SE). Figure 12 reveals no obvious overall trends in SE, except that there is a pronounced increase in differentiation of the groups at T_3 and T_4, compared to T_1 and T_2. (No reasonable explanation for this shift comes to mind.) During fourth grade there was an increase in SE, and the groups started and stayed close together. Then, over the summer months the HA-HM group continued to increase at a rate somewhat greater than that for HA-LM and HA-HM, but the LA-LM group had a precipitous decline in SE. This was followed during fifth grade by a sharp decline in SE for the HA-LM group. Both of these sharp declines are inexplicable in this context although other data may provide helpful clues.

Peer Rejection (PR). There was little change in PR between T_1 and T_2, and T_2 and T_3, but substantial increases occurred between T_3 and T_4, as Figure 13 shows. During this period the greatest increase occurred for HA-LM, and the least for HA-HM. And, over the total time it should be added that HA-LM showed the greatest increase, and HA-HM showed the least (actually a slight decrease). In view of these results

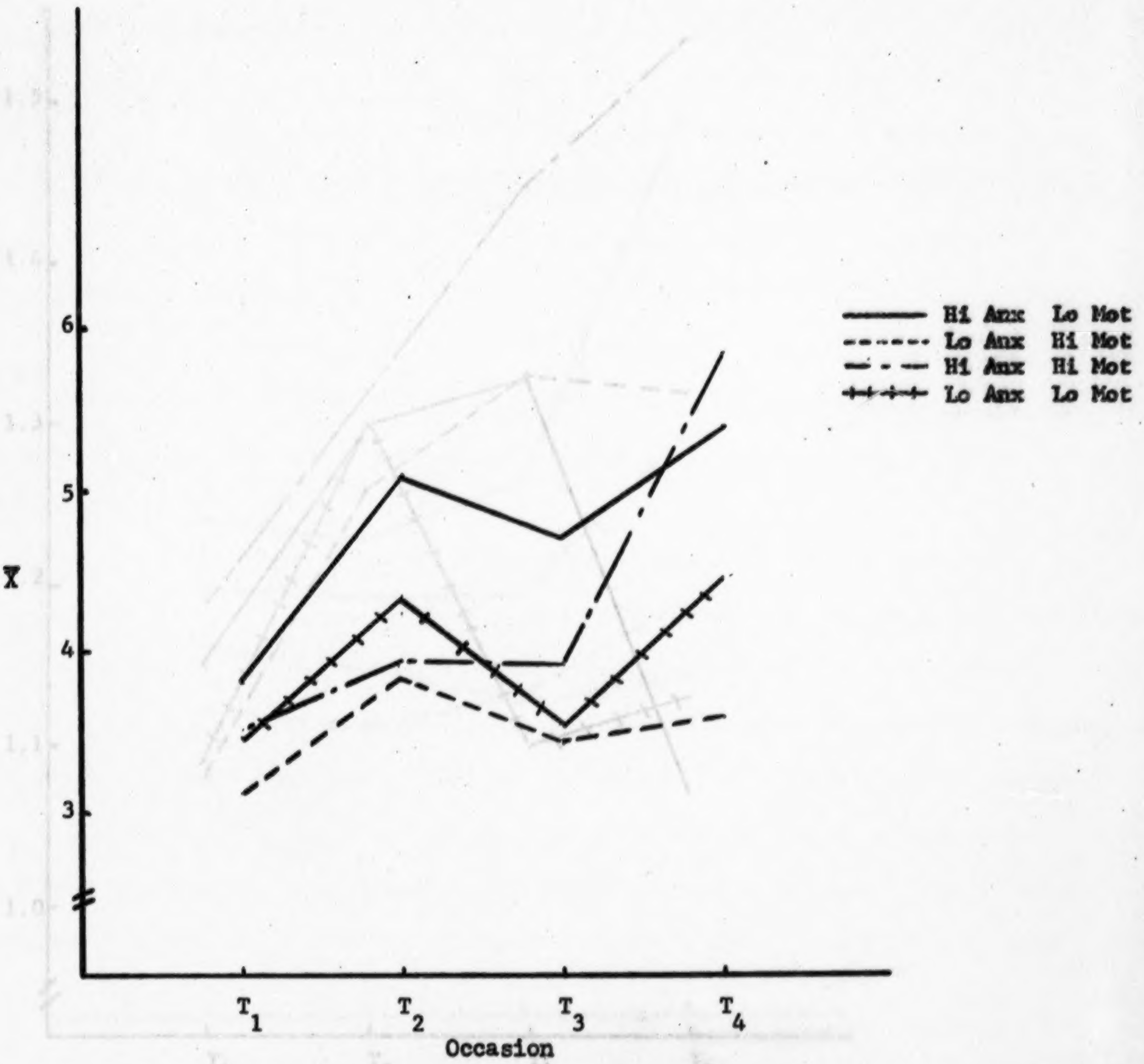

Figure 11. Anglo Interaction between High and Low School Anxiety and School Motivation and Self Disparagement, in relation to Peers (SD), the interaction being significant beyond the .10 level.

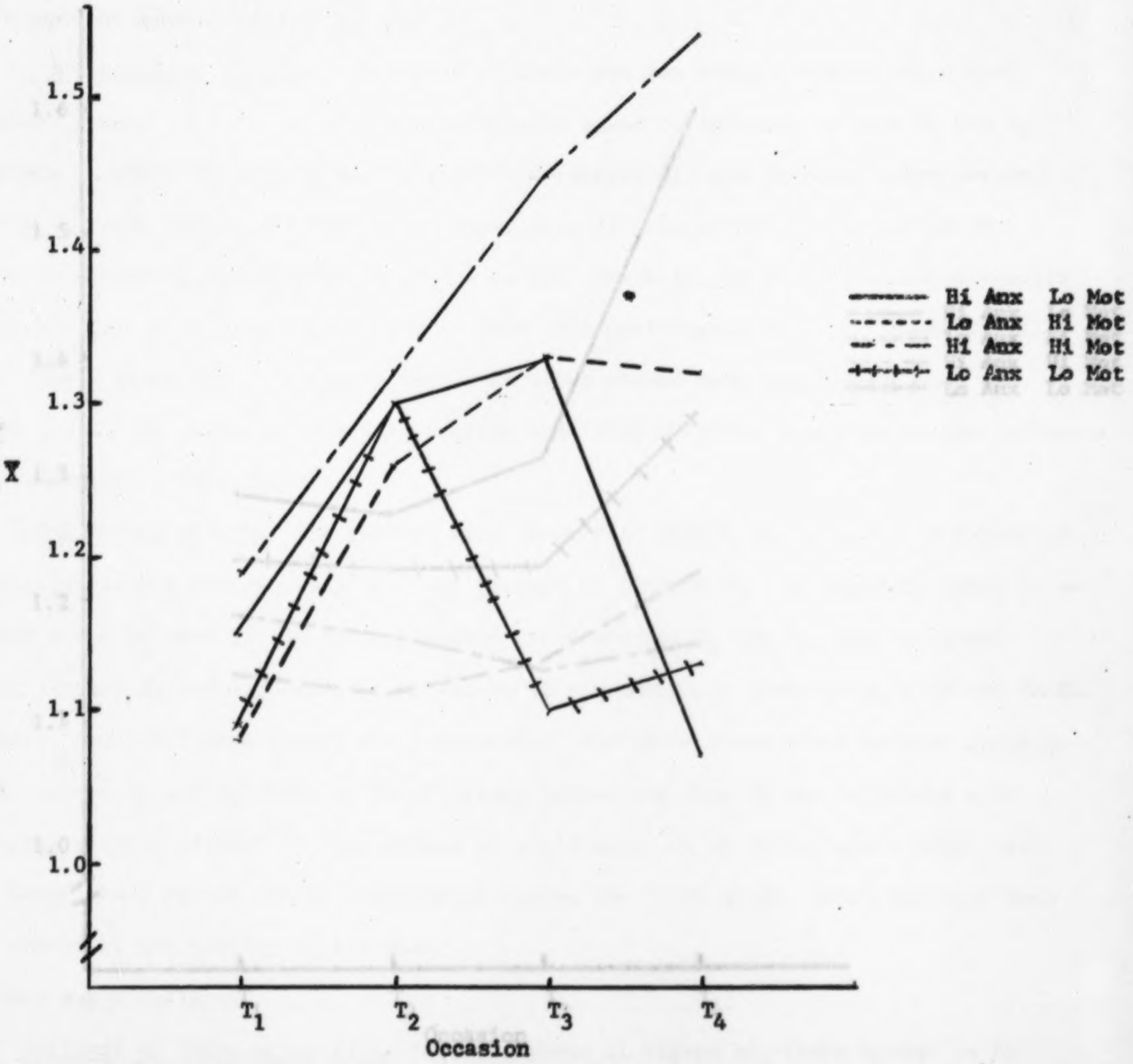

Figure 12 . Anglo Interaction between High and Low School Anxiety and School Motivation and Self Enhancement, through Derogation of Others (SE), the interaction being significant beyond the .10 level.

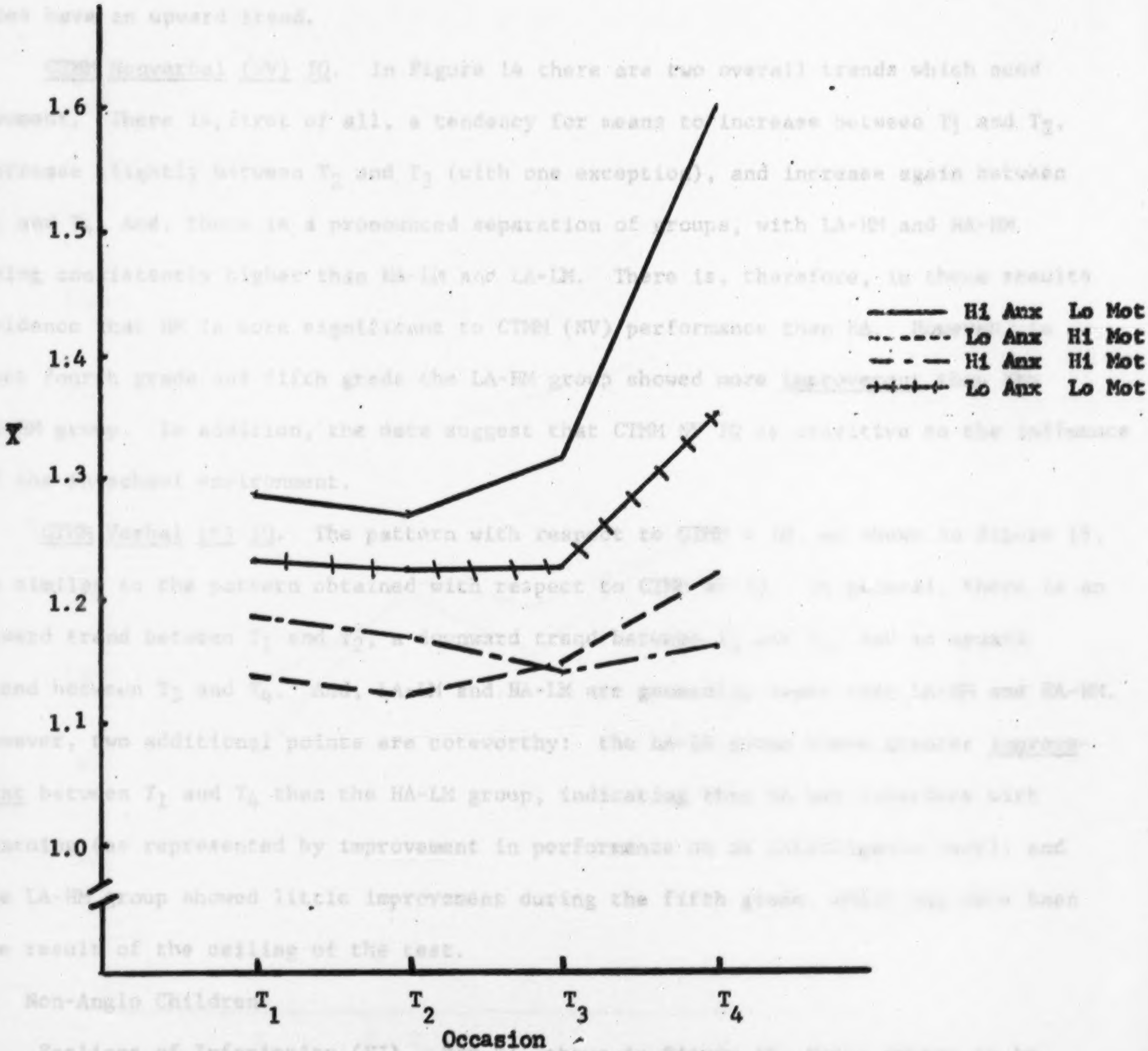

Figure 13. Anglo Interaction between High and Low School Anxiety and School Motivation and Peer Rejection (PR), the interaction being significant beyond the .10 level.

it is appropriate to suggest that SM interacts with HA, so that peer rejection is more likely to occur for HA children with LM than HA children with HM. In keeping with this, the LA-HM group is similar to the HA-HM group in means, although the group does have an upward trend.

CTMM Nonverbal (NV) IQ. In Figure 14 there are two overall trends which need comment. There is, first of all, a tendency for means to increase between T_1 and T_2, decrease slightly between T_2 and T_3 (with one exception), and increase again between T_3 and T_4. And, there is a pronounced separation of groups, with LA-HM and HA-HM being consistently higher than HA-LM and LA-LM. There is, therefore, in these results evidence that HM is more significant to CTMM (NV) performance than HA. However, in both fourth grade and fifth grade the LA-HM group showed more improvement than the HA-HM group. In addition, the data suggest that CTMM NV IQ is sensitive to the influence of the in-school environment.

CTMM Verbal (V) IQ. The pattern with respect to CTMM V IQ, as shown in Figure 15, is similar to the pattern obtained with respect to CTMM NV IQ. In general, there is an upward trend between T_1 and T_2, a downward trend between T_2 and T_3, and an upward trend between T_3 and T_4. And, LA-LM and HA-LM are generally lower than LA-HM and HA-HM. However, two additional points are noteworthy: the LA-LM group shows greater improvement between T_1 and T_4 than the HA-LM group, indicating that HA may interfere with learning (as represented by improvement in performance on an intelligence test); and the LA-HM group showed little improvement during the fifth grade, which may have been the result of the ceiling of the test.

b. Non-Anglo Children

Feelings of Inferiority (FI). For FI, shown in Figure 16, there appear to be distinctive pairs of groups with a sharply differing trend. Two groups, LA-HM and LA-LM, have an inverted V pattern, although the first peaks at T_2 and the second at T_3. Also, LA-HM drops strongly between T_2 and T_3, while LA-LM rises during the same period, and they both go down from T_3 to T_4. The other two groups, HA-LM and HA-HM, rise between T_1 and T_2, fall between T_2 and T_3, and rise again between T_3 and T_4. On the basis of this evidence it would appear that there were quite different processes

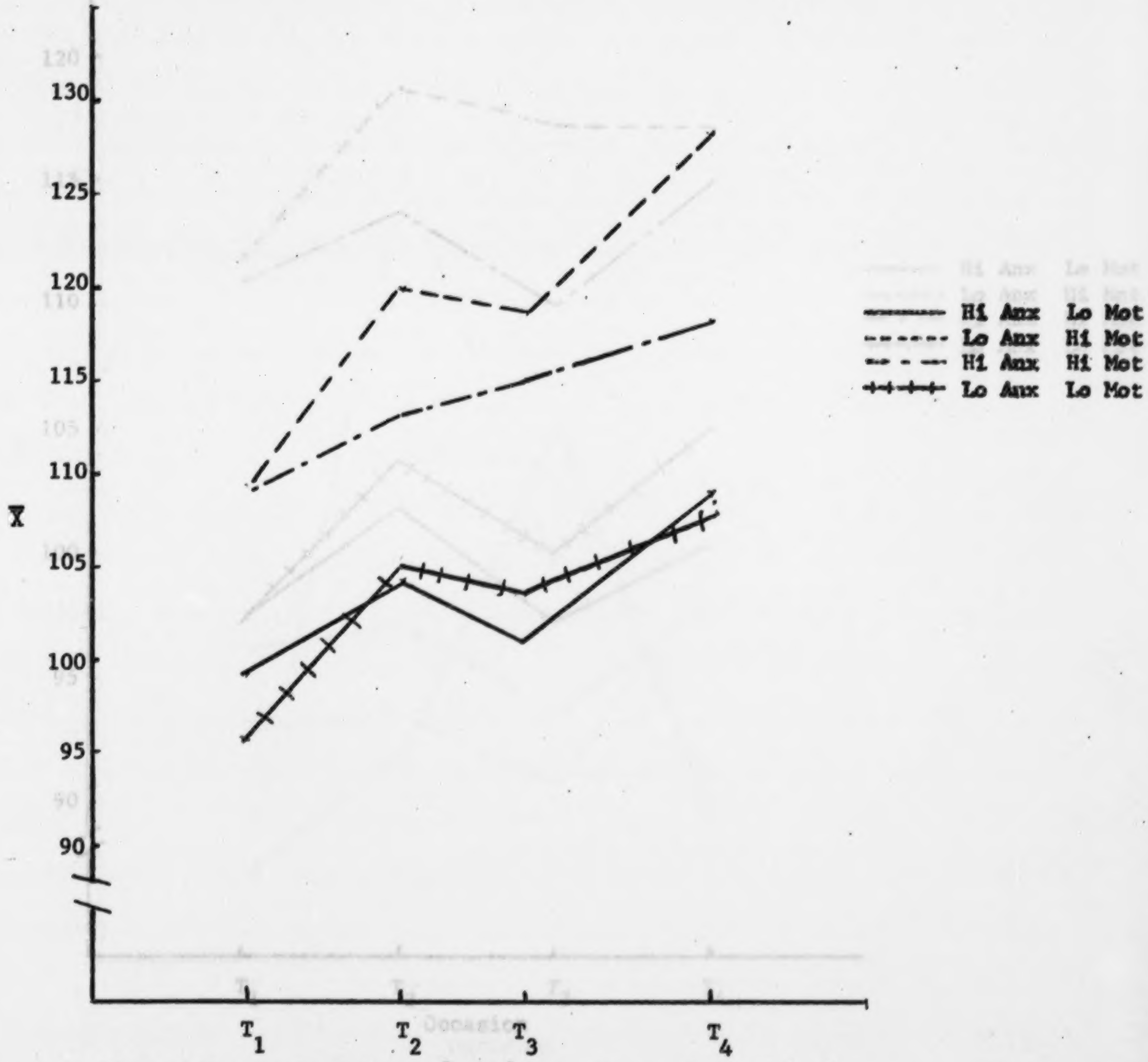

Figure 14 Anglo Interaction between High and Low School Anxiety and School Motivation and CTMM NonVerbal (NV) IQ, the interaction being significant beyond the .10 level.

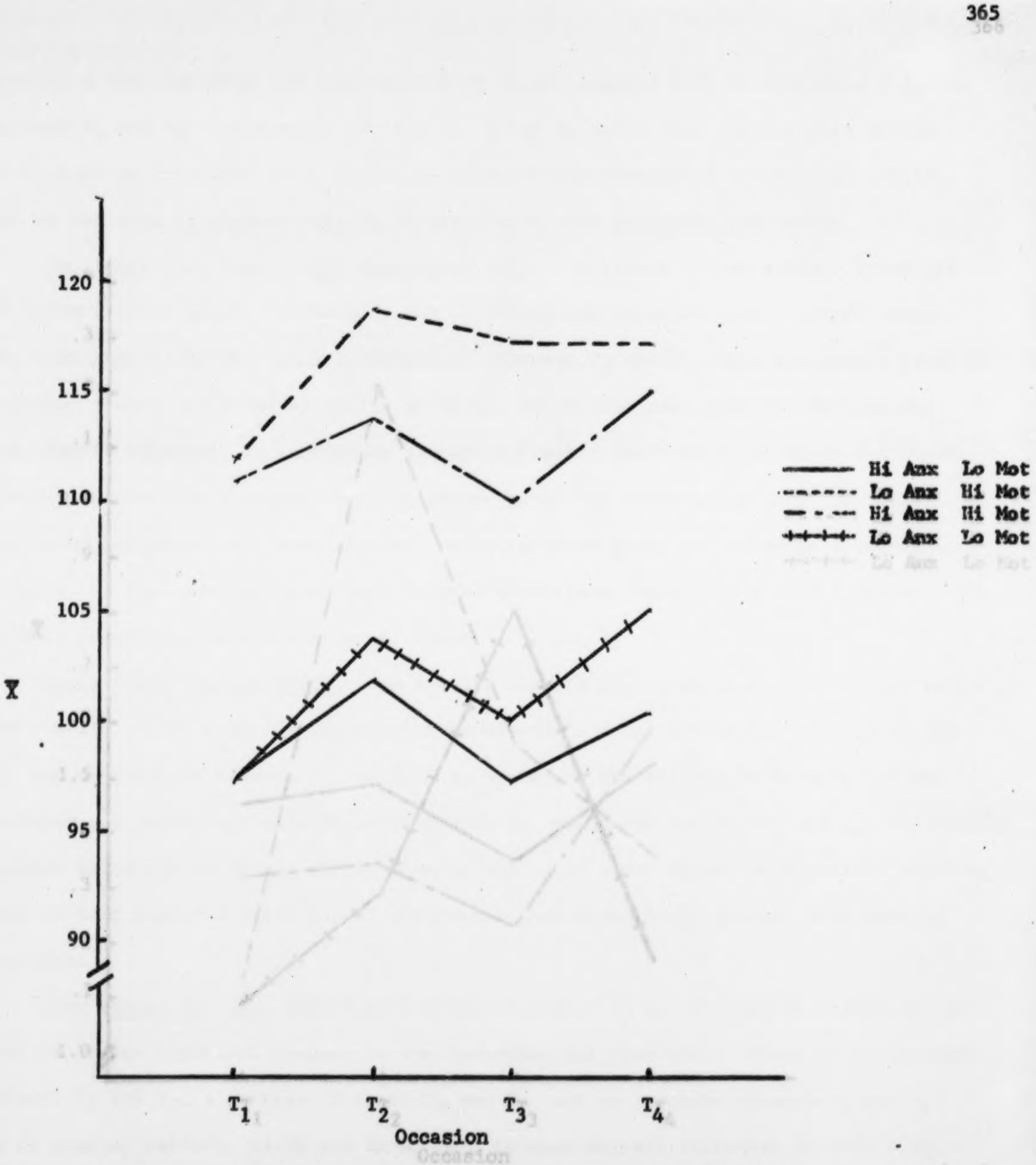

Figure 15. Anglo Interaction between High and Low School Anxiety and School Motivation and CTMM Verbal (V) IQ, the interaction being significant beyond the .10 level.

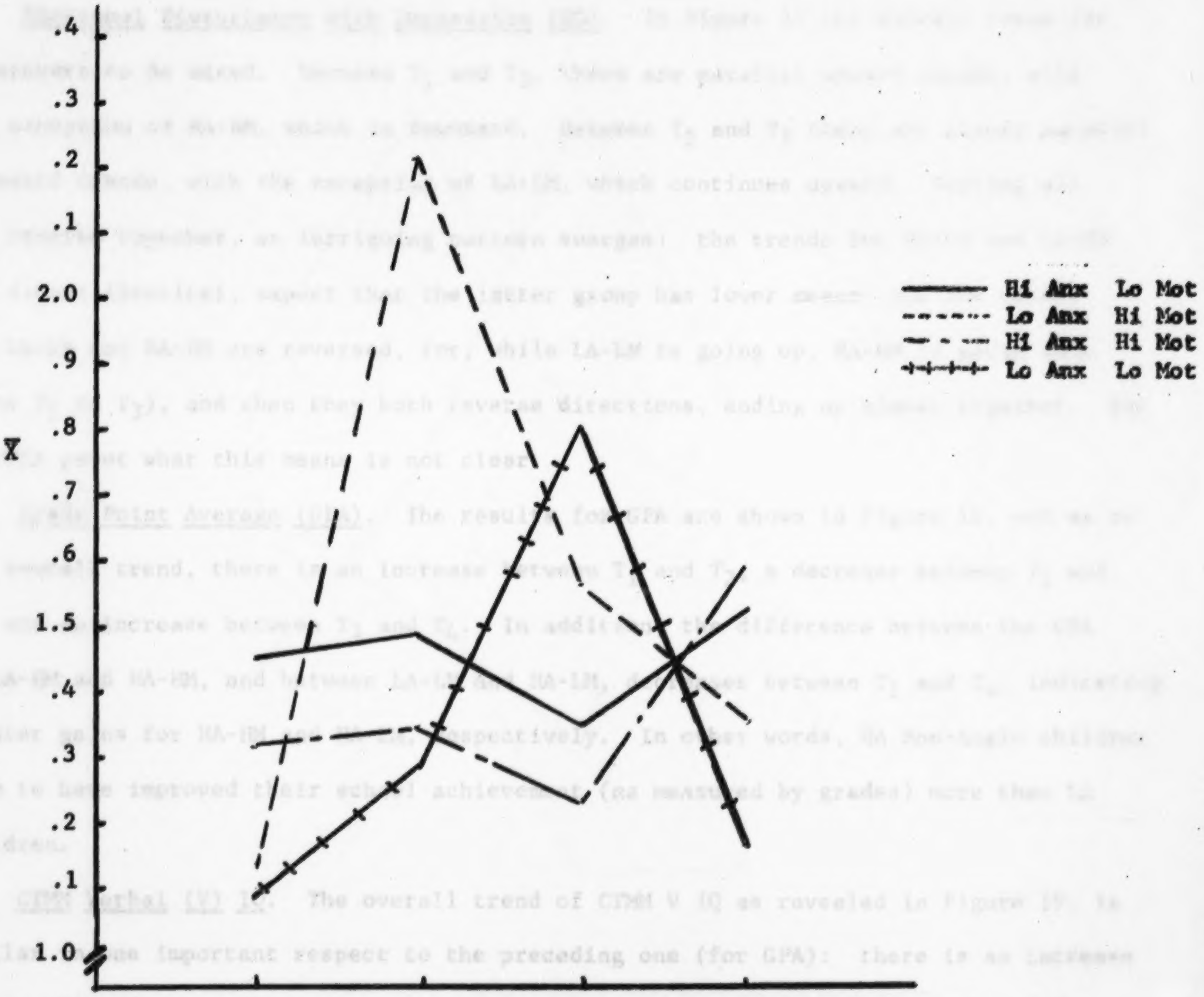

Figure 16. Non-Anglo Interaction between High and Low School Anxiety and School Motivation and Feelings of Inferiority (FI), the interaction being significant beyond the .10 level.

governing the responses (or experiences) of HA as compared with LA Non-Anglo children between T_1 and T_4. In support of this it should be noted that these groups end up at T_4 much as they were at T_1 (this, in spite of the variations in between). Also, for HA children it appears that FI is associated with in-school influences.

Emotional Disturbance with Depression (ED). In Figure 17 the overall trend for ED appears to be mixed. Between T_1 and T_2, there are parallel upward trends, with the exception of HA-HM, which is downward. Between T_2 and T_3 there are almost parallel downward trends, with the exception of LA-LM, which continues upward. Putting all the results together, an intriguing pattern emerges: the trends for HA-LM and LA-HM are almost identical, expect that the latter group has lower means; and the trends for LA-LM and HA-HM are reversed, for, while LA-LM is going up, HA-HM is going down (from T_1 to T_3), and then they both reverse directions, ending up almost together. But at this point what this means is not clear.

Grade Point Average (GPA). The results for GPA are shown in Figure 18, and as to the overall trend, there is an increase between T_1 and T_2, a decrease between T_2 and T_3, and an increase between T_3 and T_4. In addition, the difference between the GPA of LA-HM and HA-HM, and between LA-LM and HA-LM, decreases between T_1 and T_4, indicating greater gains for HA-HM and HA-LM, respectively. In other words, HA Non-Anglo children seem to have improved their school achievement (as measured by grades) more than LA children.

CTMM Verbal (V) IQ. The overall trend of CTMM V IQ as revealed in Figure 19, is similar in one important respect to the preceding one (for GPA): there is an increase between T_1 and T_2, a decrease between T_2 and T_3, and an increase between T_3 and T_4. As to general pattern, LA-HM and HA-HM tend to show overall increases in CTMM V IQ, while LA-LM and HA-LM tend to show overall decreases. These combined results suggest the association of CTMM V IQ gains with in-school influences, as well as with HM. To go a step further, school anxiety appears to be strongly associated with status on the CTMM V IQ (note the large differences in means), and school motivation appears to be associated with gain or improvement in performance.

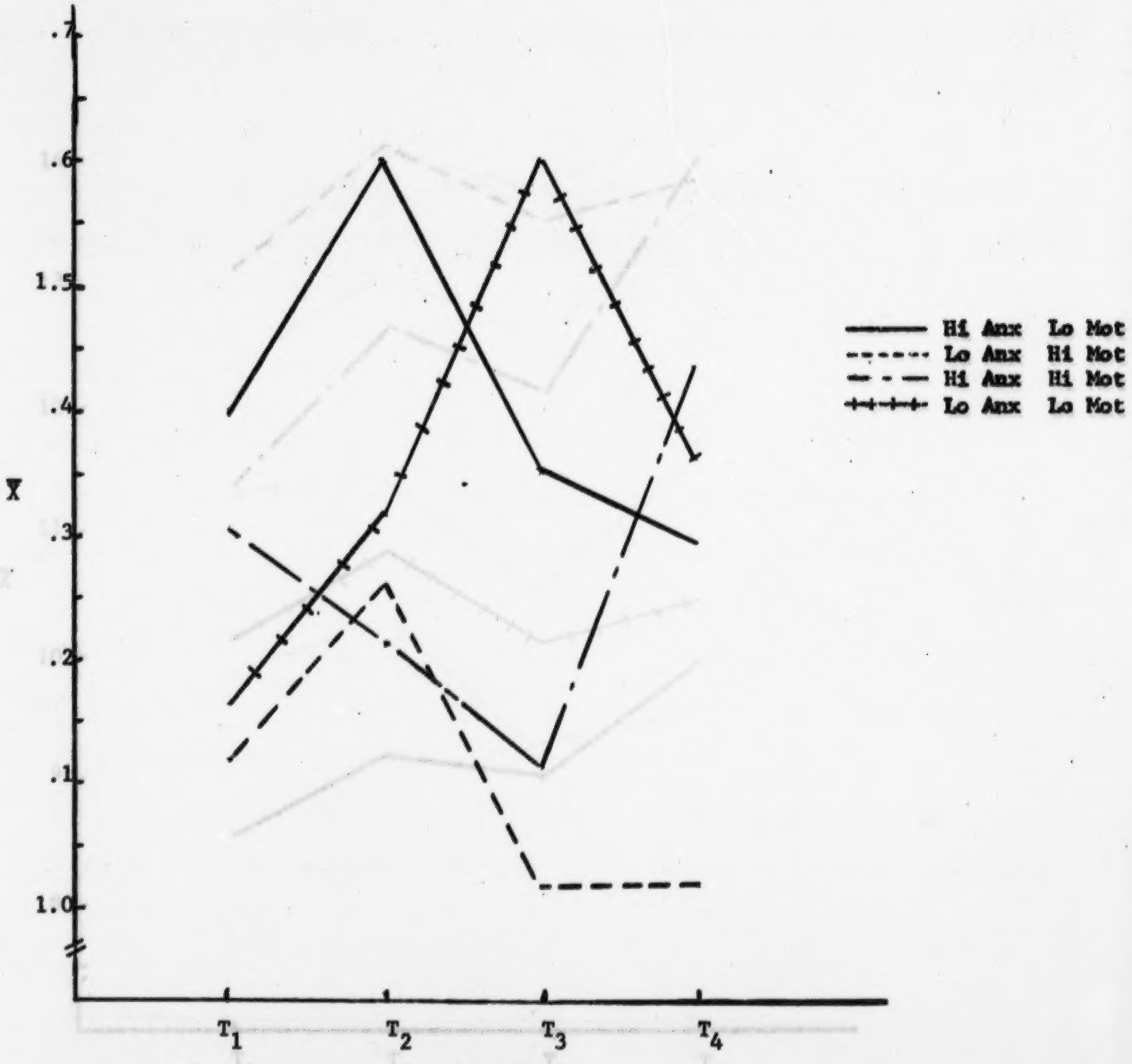

Figure 17. Non-Anglo Interaction between High and Low School Anxiety and School Motivation and Emotional Disturbance, with Depression (ED), the interaction being significant beyond the .10 level.

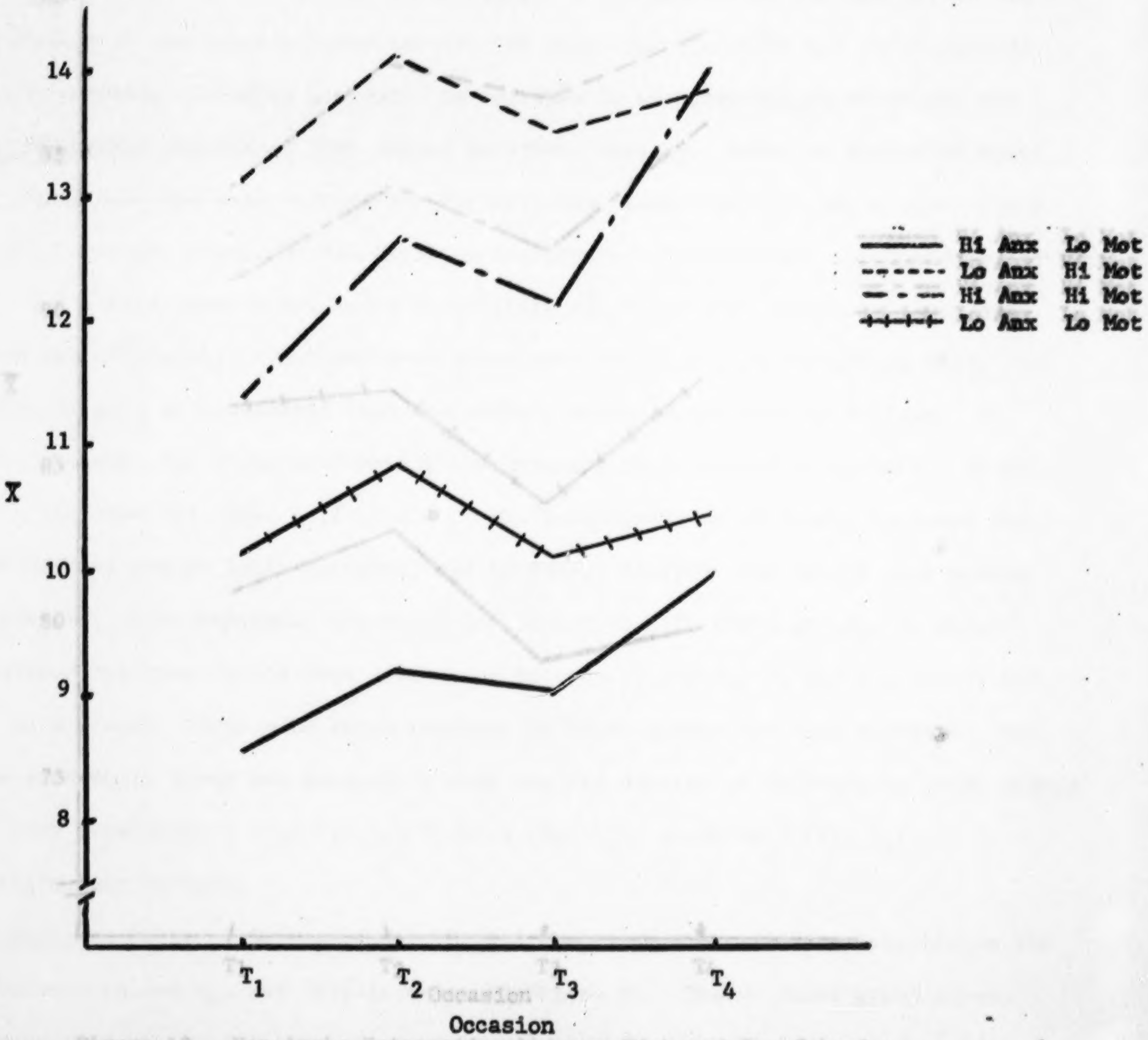

Figure 18. Non-Anglo Interaction between High and Low School Anxiety and School Motivation and Grade Point Average (GPA), the interaction being significant beyond the .10 level.

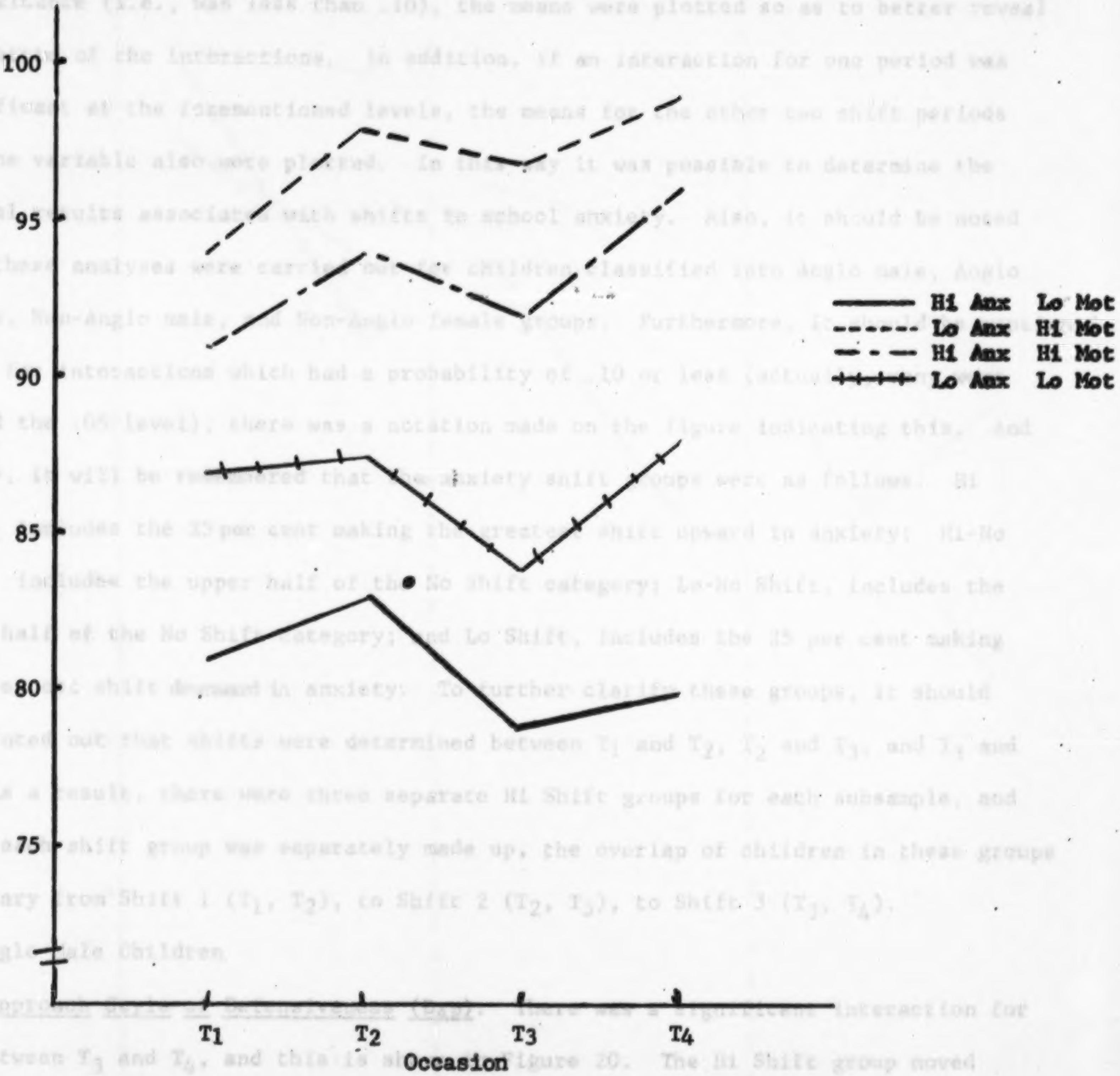

Figure 19. Non-Anglo Interaction between High and Low School Anxiety and School Motivation and CTMM Verbal (V) IQ, the interaction being significant beyond the .10 level.

Analysis of Interaction of Shift in School Anxiety with In-School and Out-of-School Influences

If an interaction was statistically significant beyond the .05 level, or approached significance (i.e., was less than .10), the means were plotted so as to better reveal the nature of the interactions. In addition, if an interaction for one period was significant at the forementioned levels, the means for the other two shift periods for the variable also were plotted. In this way it was possible to determine the general results associated with shifts in school anxiety. Also, it should be noted that these analyses were carried out for children classified into Anglo male, Anglo female, Non-Anglo male, and Non-Anglo female groups. Furthermore, it should be mentioned that, for interactions which had a probability of .10 or less (actually, many were beyond the .05 level), there was a notation made on the figure indicating this. And lastly, it will be remembered that the anxiety shift groups were as follows: Hi Shift, includes the 25 per cent making the greatest shift upward in anxiety; Hi-No Shift, includes the upper half of the No Shift category; Lo-No Shift, includes the lower half of the No Shift category; and Lo Shift, includes the 25 per cent making the greatest shift downward in anxiety. To further clarify these groups, it should be pointed out that shifts were determined between T_1 and T_2, T_2 and T_3, and T_3 and T_4. As a result, there were three separate Hi Shift groups for each subsample, and since each shift group was separately made up, the overlap of children in these groups will vary from Shift 1 (T_1, T_2), to Shift 2 (T_2, T_3), to Shift 3 (T_3, T_4).

a. Anglo Male Children

Approach Style of Defensiveness (D_{AP}). There was a significant interaction for D_{AP} between T_3 and T_4, and this is shown in Figure 20. The Hi Shift group moved downward, and the Lo Shift group moved upward, in D_{AP}. Parallel downward trends appeared in the two No Shift groups. The major difference which occurs for the other two Shift periods involves the Lo Shift group for which there is a reversal of pattern - from an increase in D_{AP} between T_3 and T_4, to a decrease between T_1 and T_2, and T_2 and T_3. Overall, there generally is a decrease in approach style of defensiveness from T_1 to T_4, the only exception being already noted.

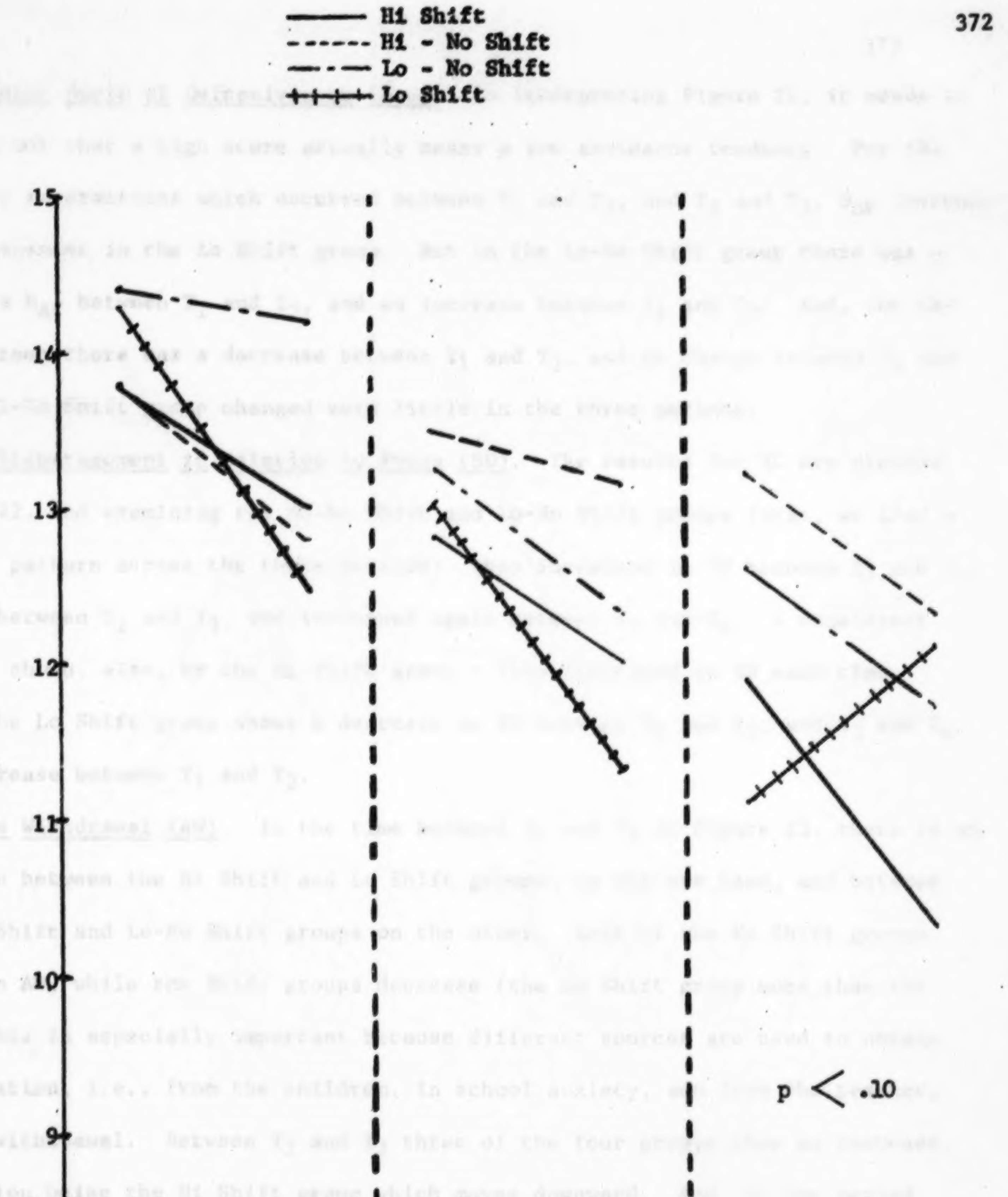

Figure 20. Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Approach Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

Avoidance Style of Defensiveness (D_{AV}). In interpreting Figure 21, it needs to be pointed out that a high score actually means a low avoidance tendency. For the significant interactions which occurred between T_1 and T_2, and T_2 and T_3, D_{AV} increased in both instances in the Lo Shift group. But in the Lo-No Shift group there was a decrease in D_{AV} between T_1 and T_2, and an increase between T_2 and T_3. And, for the Hi Shift group there was a decrease between T_1 and T_2, and no change between T_2 and T_3. The Hi-No Shift group changed very little in the three periods.

Self Disparagement in Relation to Peers (SD). The results for SD are plotted in Figure 22, and examining the Hi-No Shift and Lo-No Shift groups first, we find a consistent pattern across the three periods: they increased in SD between T_1 and T_2, decreased between T_2 and T_3, and increased again between T_3 and T_4. A consistent pattern is shown, also, by the Hi Shift group - they increased on SD each time. Finally, the Lo Shift group shows a decrease on SD between T_2 and T_3, and T_3 and T_4, but an increase between T_1 and T_2.

Active Withdrawal (AW). In the time between T_1 and T_2 in Figure 23, there is an interaction between the Hi Shift and Lo Shift groups, on the one hand, and between the Hi-No Shift and Lo-No Shift groups on the other. Both of the No Shift groups increase in AW, while the Shift groups decrease (the Lo Shift group more than the other). This is especially important because different sources are used to obtain the information, i.e., from the children, in school anxiety, and from the teacher, in active withdrawal. Between T_2 and T_3 three of the four groups show an increase, the exception being the Hi Shift group which moves downward. And, in the period between T_3 and T_4 there is a tendency again for pairing to occur, with the Hi Shift and Hi-No Shift groups increasing in AW, and the other two groups decreasing in AW. These last two period interactions, however, are nonsignificant.

Peer Rejection (PR). The only major deviation with regard to PR, as shown in Figure 24, is an unusually large increase in PR associated with the Hi Shift group between T_3 and T_4. In this instance the children who increased in school anxiety had a marked increase in peer rejection. (Also, it should be mentioned that a constant of 1.0 was added to all peer nomination scores as a computational convenience.)

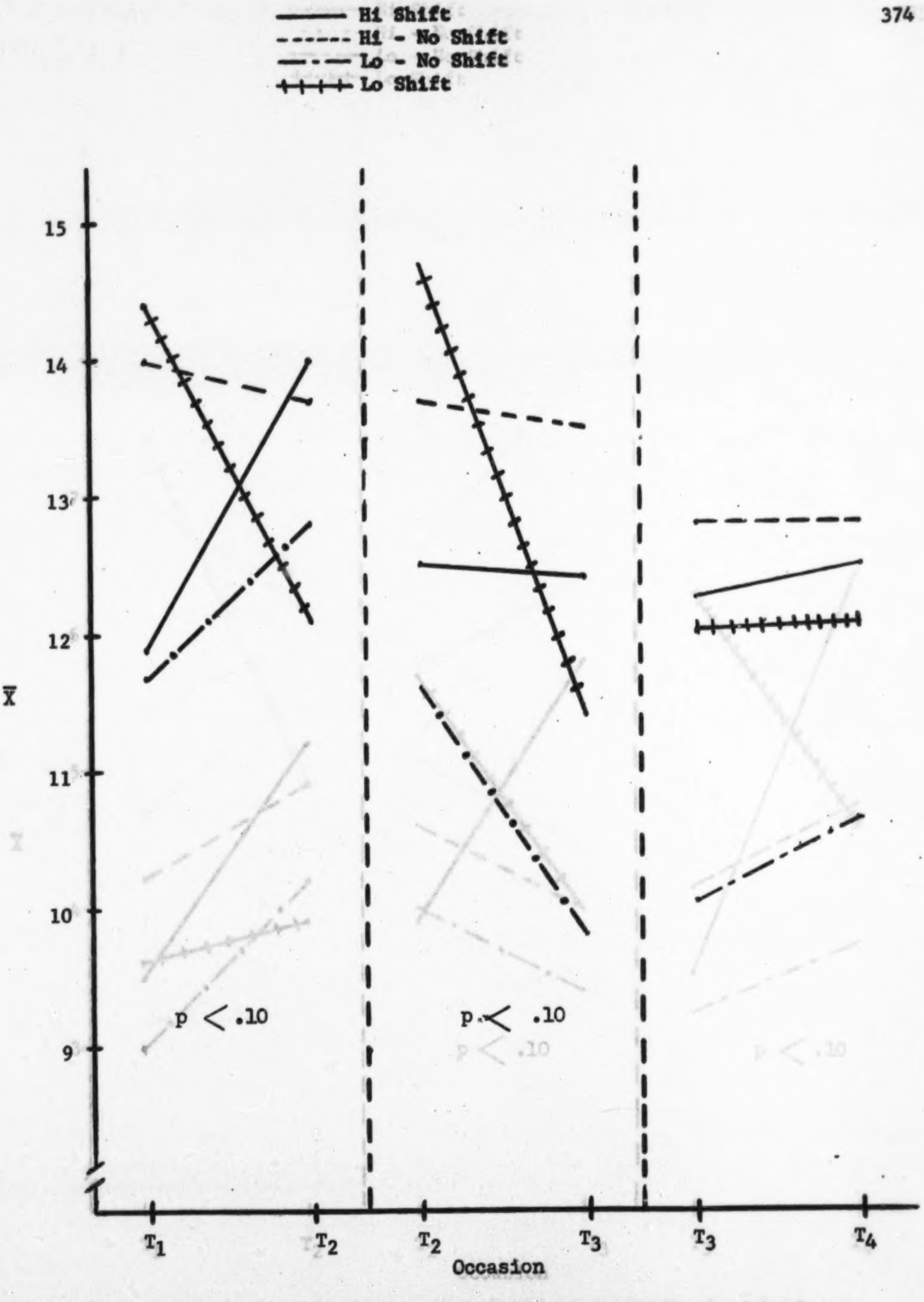

Figure 21. Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Avoidance Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

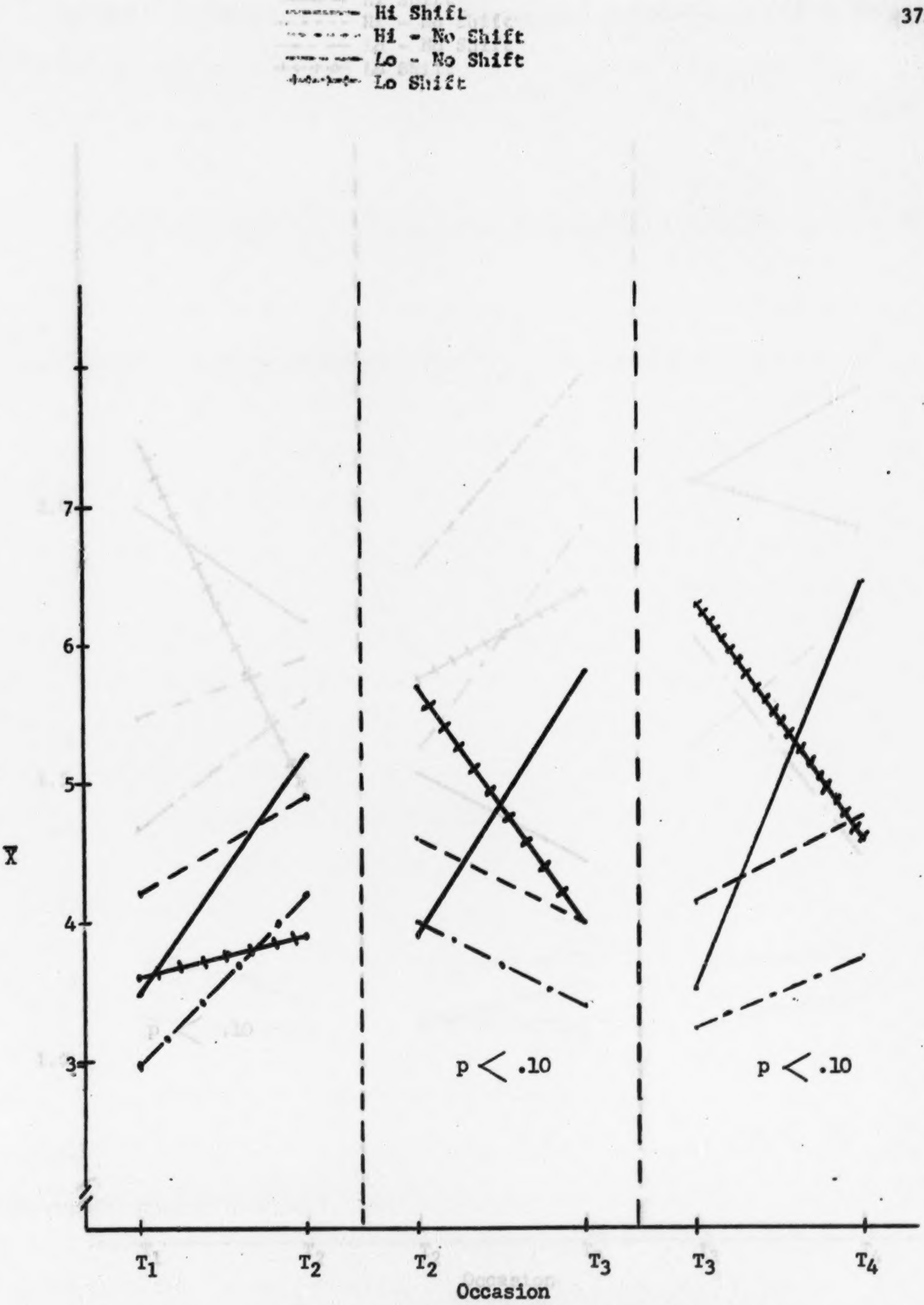

Figure 22. Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Self Disparagement, in relation to Peers, where one or more of the interactions is significant beyond the .10 level.

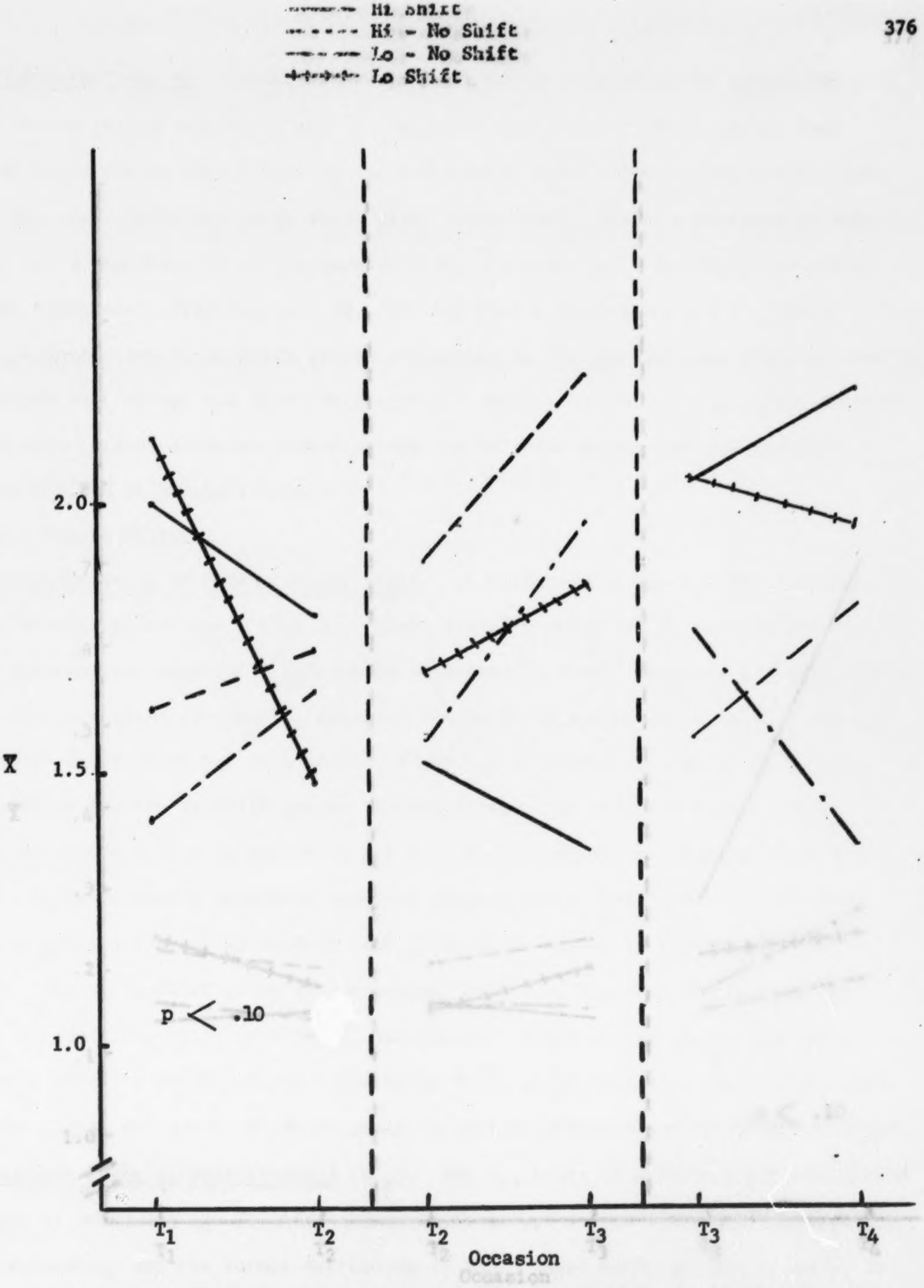

Figure 23 . Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Active Withdrawal, where one or more of the interactions is significant beyond the .10 level.

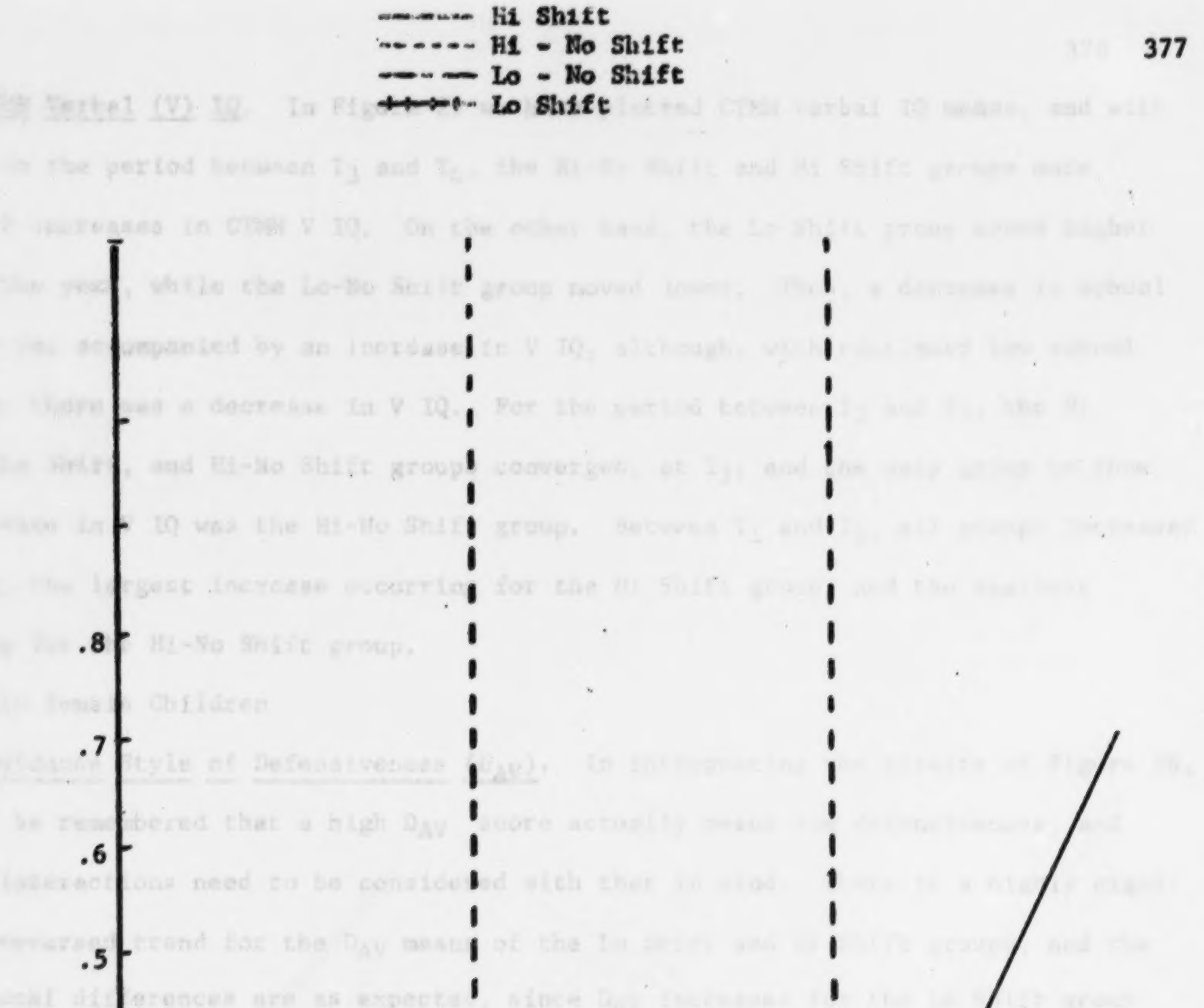

Figure 24 . Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Peer Rejection, where one or more of the interactions is significant beyond the .10 level.

CTMM Verbal (V) IQ. In Figure 25 we have plotted CTMM Verbal IQ means, and with regard to the period between T_3 and T_4, the Hi-No Shift and Hi Shift groups made parallel increases in CTMM V IQ. On the other hand, the Lo Shift group moved higher during the year, while the Lo-No Shift group moved lower. Thus, a decrease in school anxiety was accompanied by an increase in V IQ, although, with continued low school anxiety, there was a decrease in V IQ. For the period between T_2 and T_3, the Hi Shift, Lo Shift, and Hi-No Shift groups converged, at T_3; and the only group to show an increase in V IQ was the Hi-No Shift group. Between T_1 and T_2, all groups increased in V IQ, the largest increase occurring for the Hi Shift group, and the smallest occuring for the Hi-No Shift group.

b. Anglo Female Children

Avoidance Style of Defensiveness (D_{AV}). In interpreting the results of Figure 26, it must be remembered that a high D_{AV} score actually means low defensiveness, and so the interactions need to be considered with that in mind. There is a highly significant reversed trend for the D_{AV} means of the Lo Shift and Hi Shift groups, and the directional differences are as expected, since D_{AV} increases for the Lo Shift group and decreases for the Hi Shift group. Interestingly, the reversal becomes less pronounced from the T_1 - T_2 period to the T_3 - T_4 period, which indicates that the tendency to be extremely avoidance oriented progressively diminishes. At the same time, the pattern for the Hi-No Shift and Lo-No Shift groups is stable over these periods. The Hi-No Shift group is, of course, higher on D_{AV} than the Lo-No Shift group. In addition, there is a small, progressive change in D_{AV} means for these two groups over the three periods - the Hi-No Shift group becomes progressively less defensive (D_{AV}), and the Lo-No Shift group becomes progressively more defensive (D_{AV}).

Approach Style of Defensiveness (D_{AP}). For D_{AP} there is a pronounced interaction in Figure 27 involving the Lo Shift and Hi Shift groups in the T_1-T_2 period, with the latter increasing and the former decreasing in D_{AP}. These shift groups, however, do not maintain this pattern in the T_2-T_3 and T_3-T_4 periods, since their trend lines are much more parallel for those two periods. But, for the other two groups the parallelness of the T_1-T_2 period gives way to a certain amount of interaction. Overall, it

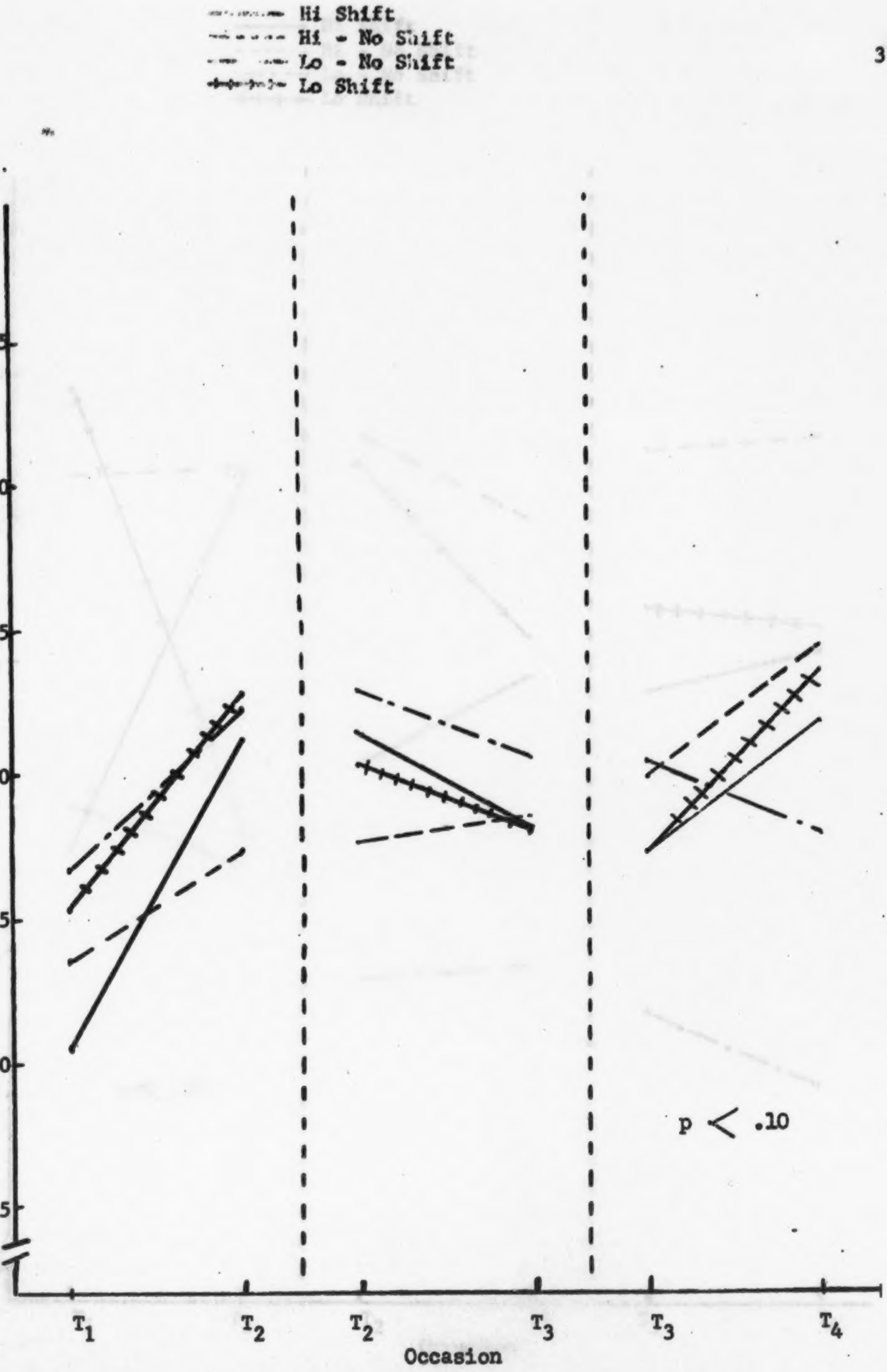

Figure 25. Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and CTMM Verbal IQ, where one or more of the interactions is significant beyond the .10 level.

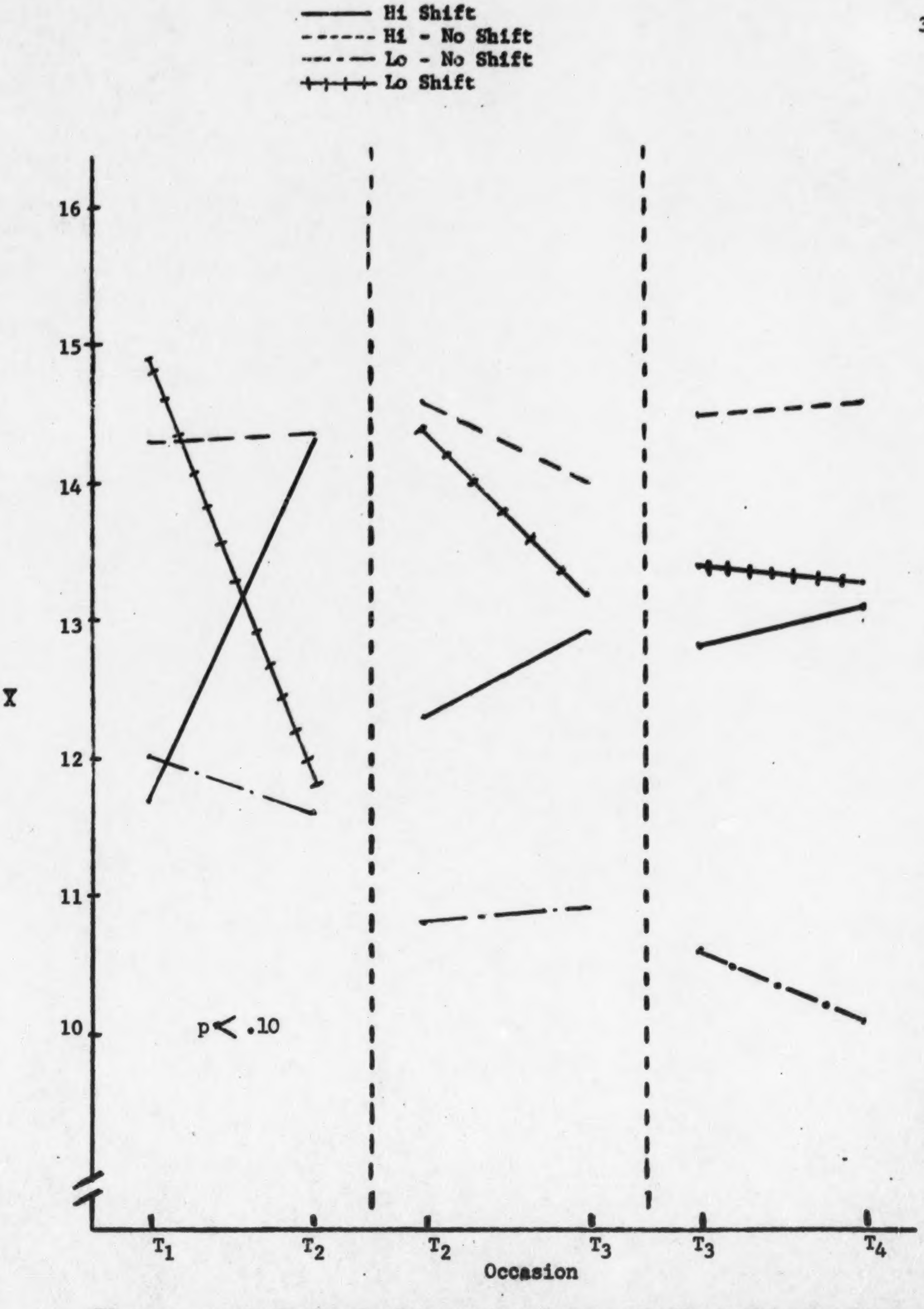

Figure 26. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Avoidance Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

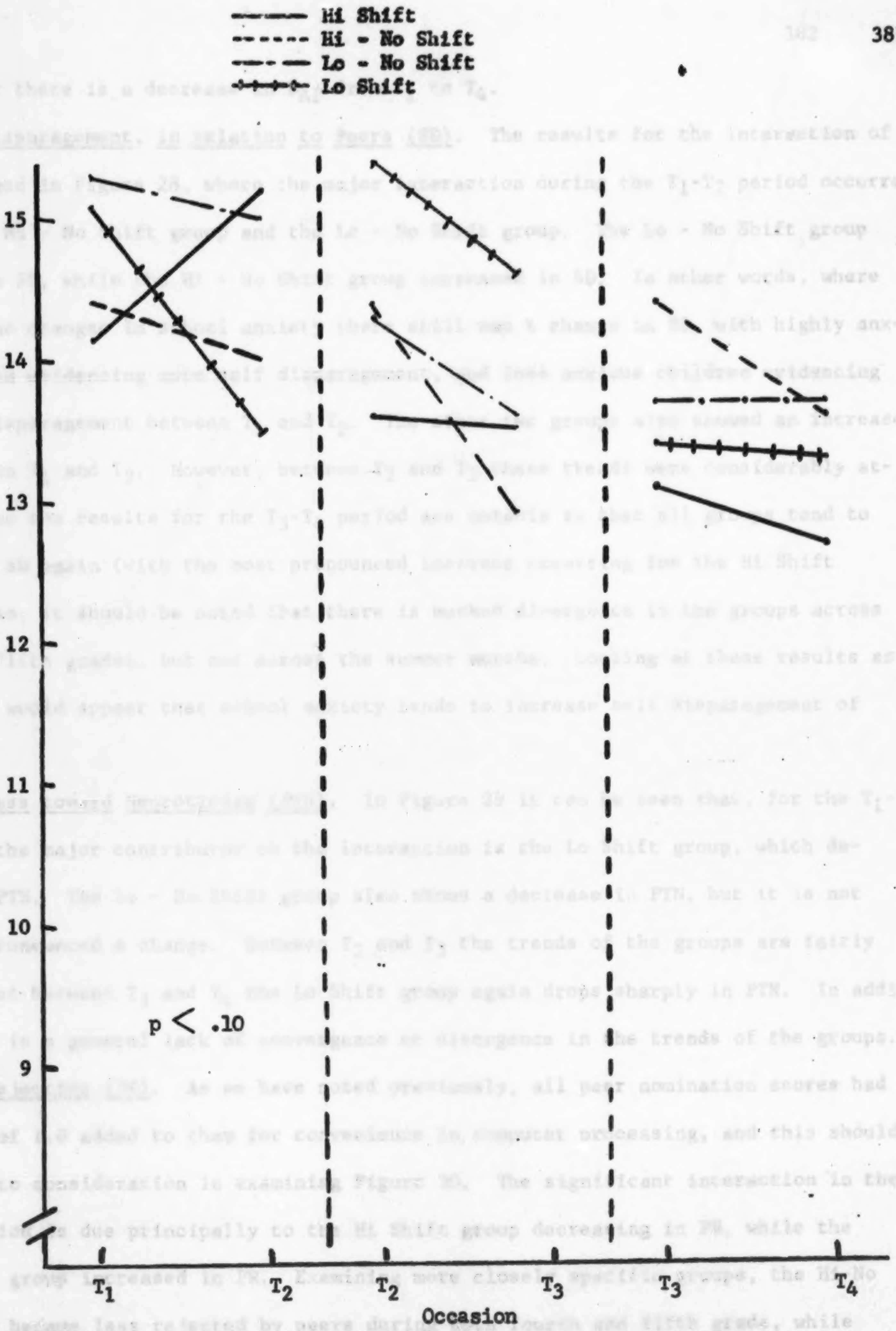

Figure 27. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Approach Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

appears that there is a decrease in D_{AP} from T_1 to T_4.

Self Disparagement, in relation to Peers (SD). The results for the interaction of SD are graphed in Figure 28, where the major interaction during the T_1-T_2 period occurred between the Hi - No Shift group and the Lo - No Shift group. The Lo - No Shift group decreased in SD, while the Hi - No Shift group increased in SD. In other words, where there were no changes in school anxiety there still was a change in SD, with highly anxious children evidencing more self disparagement, and less anxious children evidencing less self disparagement between T_1 and T_2. The other two groups also showed an increase in SD between T_1 and T_2. However, between T_2 and T_3 these trends were considerably attenuated, and the results for the T_3-T_4 period are notable in that all groups tend to increase in SD again (with the most pronounced increase occurring for the Hi Shift group). Also, it should be noted that there is marked divergence in the groups across fourth and fifth grades, but not across the summer months. Looking at these results as a whole, it would appear that school anxiety tends to increase self disparagement of children.

Proneness toward Neuroticism (PTN). In Figure 29 it can be seen that, for the T_1-T_2 period, the major contributor to the interaction is the Lo Shift group, which decreases in PTN. The Lo - No Shift group also shows a decrease in PTN, but it is not nearly so pronounced a change. Between T_2 and T_3 the trends of the groups are fairly parallel, but between T_3 and T_4 the Lo Shift group again drops sharply in PTN. In addition, there is a general lack of convergence or divergence in the trends of the groups.

Peer Rejection (PR). As we have noted previously, all peer nomination scores had a constant of 1.0 added to them for convenience in computer processing, and this should be taken into consideration in examining Figure 30. The significant interaction in the T_2 - T_3 period is due principally to the Hi Shift group decreasing in PR, while the Hi-No Shift group increased in PR. Examining more closely specific groups, the Hi-No Shift group became less rejected by peers during both fourth and fifth grade, while the Hi Shift and Lo Shift groups became more rejected by peers during these same intervals of time.

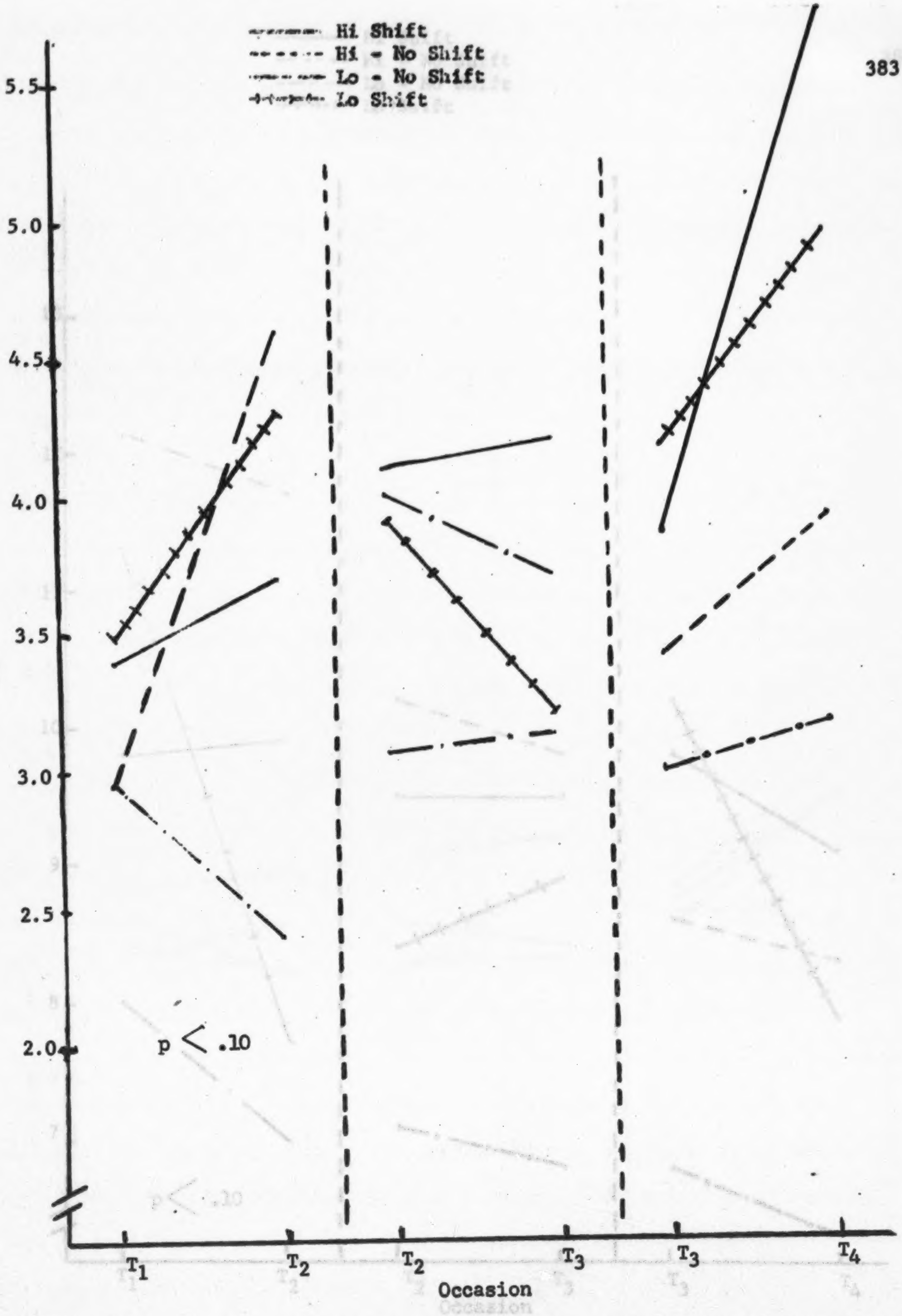

Figure 28. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Self Disparagement, in relation to Peers, where one or more of the interactions is significant beyond the .10 level.

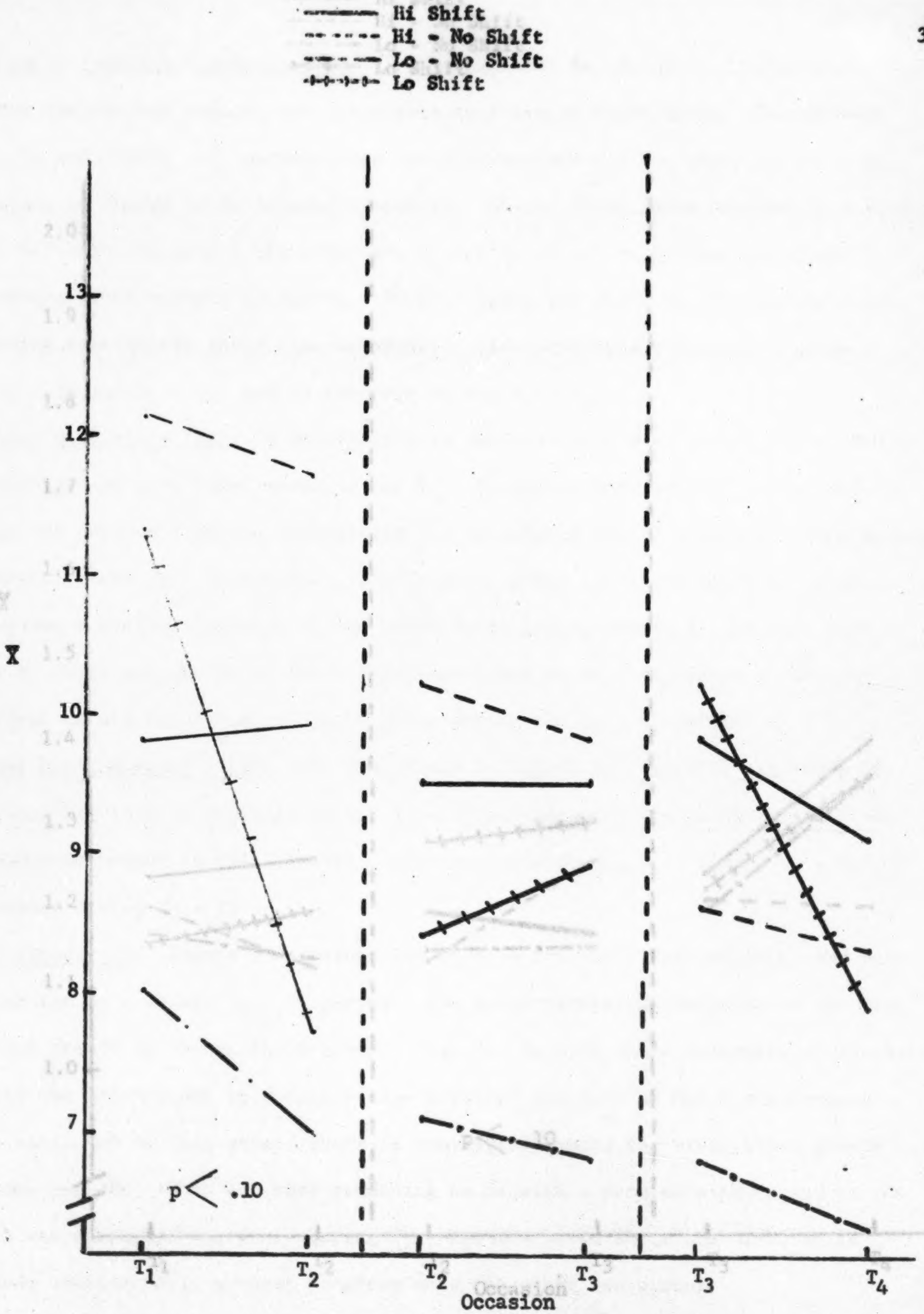

Figure 29. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Proneness toward Neuroticism, where one or more of the interactions is significant beyond the .10 level.

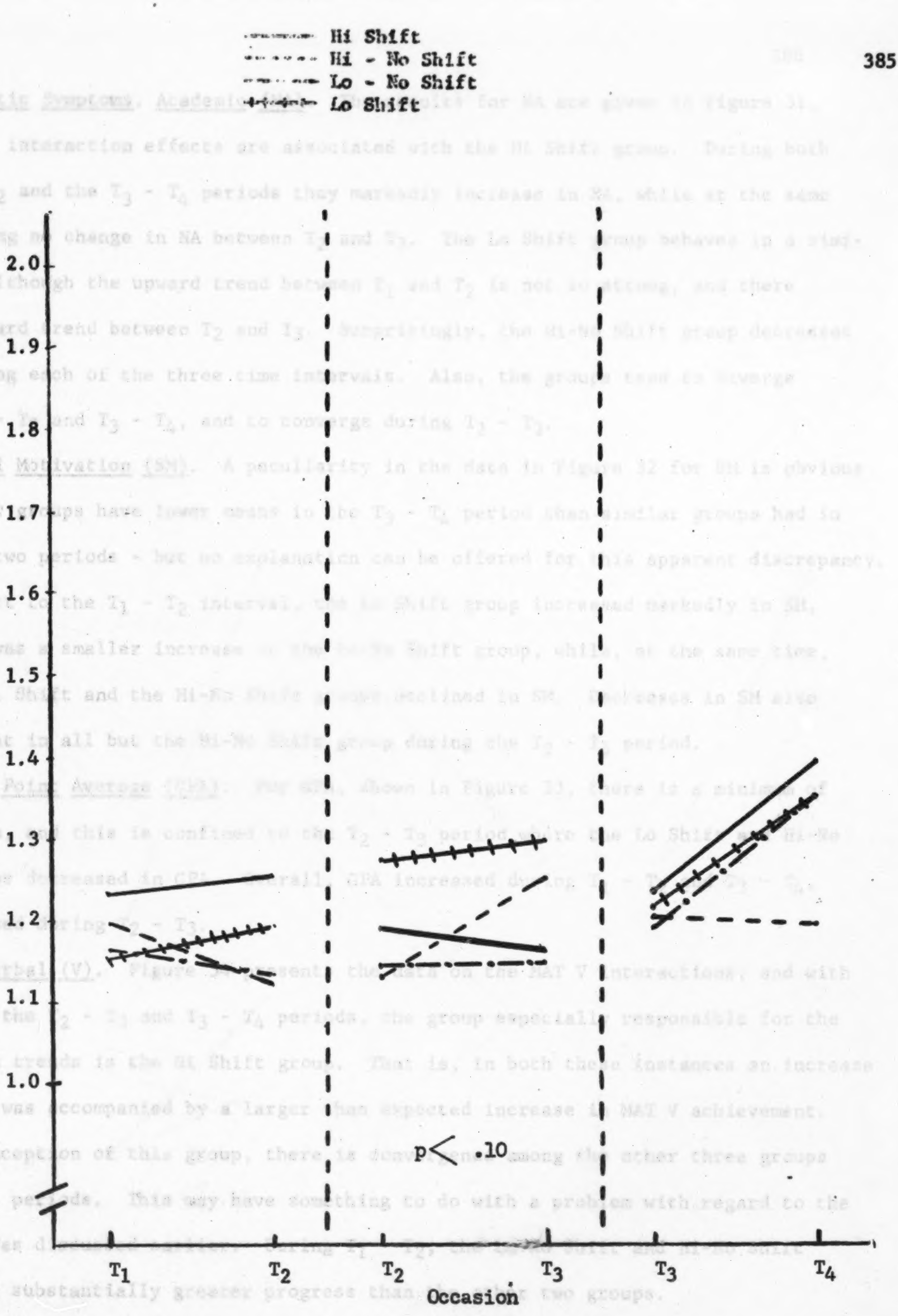

Figure 30. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, T_3-T_4) and Peer Rejection, where one or more of the interactions is significant beyond the .10 level.

Neurotic Symptoms, Academic (NA). The results for NA are given in Figure 31, where most interaction effects are associated with the Hi Shift group. During both the T_1 - T_2 and the T_3 - T_4 periods they markedly increase in NA, while at the same time showing no change in NA between T_2 and T_3. The Lo Shift group behaves in a similar way, although the upward trend between T_1 and T_2 is not so strong, and there is a downward trend between T_2 and T_3. Surprisingly, the Hi-No Shift group decreases in NA during each of the three time intervals. Also, the groups tend to diverge during T_1 - T_2 and T_3 - T_4, and to converge during T_2 - T_3.

School Motivation (SM). A peculiarity in the data in Figure 32 for SM is obvious - all four groups have lower means in the T_3 - T_4 period than similar groups had in the other two periods - but no explanation can be offered for this apparent discrepancy. With respect to the T_1 - T_2 interval, the Lo Shift group increased markedly in SM, and there was a smaller increase in the Lo-No Shift group, while, at the same time, both the Hi Shift and the Hi-No Shift groups declined in SM. Decreases in SM also were evident in all but the Hi-No Shift group during the T_2 - T_3 period.

Grade Point Average (GPA). For GPA, shown in Figure 33, there is a minimum of interaction, and this is confined to the T_2 - T_3 period where the Lo Shift and Hi-No Shift groups decreased in GPA. Overall, GPA increased during T_1 - T_2 and T_3 - T_4, and decreased during T_2 - T_3.

MAT Verbal (V). Figure 34 presents the data on the MAT V interactions, and with respect to the T_2 - T_3 and T_3 - T_4 periods, the group especially responsible for the interaction trends is the Hi Shift group. That is, in both these instances an increase in anxiety was accompanied by a larger than expected increase in MAT V achievement. With the exception of this group, there is convergence among the other three groups during both periods. This may have something to do with a problem with regard to the MAT which was discussed earlier. During T_1 - T_2, the Lo-No Shift and Hi-No Shift groups made substantially greater progress than the other two groups.

CTMM Verbal (V) IQ. A significant interaction occurred during the T_3 - T_4 period with respect to the CTMM V IQ, as Figure 35 shows. The Lo-No Shift group actually declined in CTMM V IQ during this period, while the Lo Shift group made the most

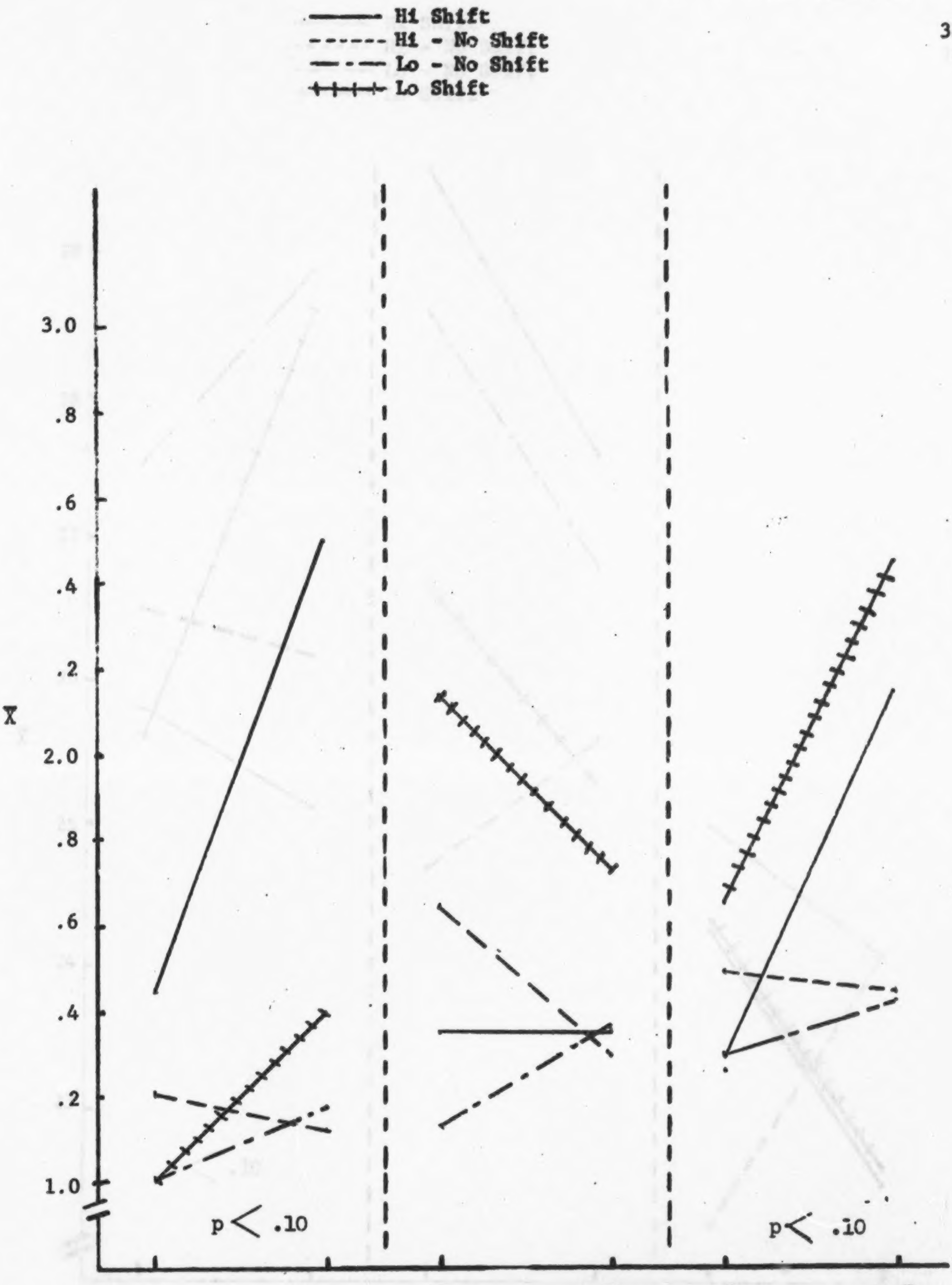

Figure 31 . Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Neurotic Symptoms, Academic, where one or more of the interactions is significant beyond the .10 level.

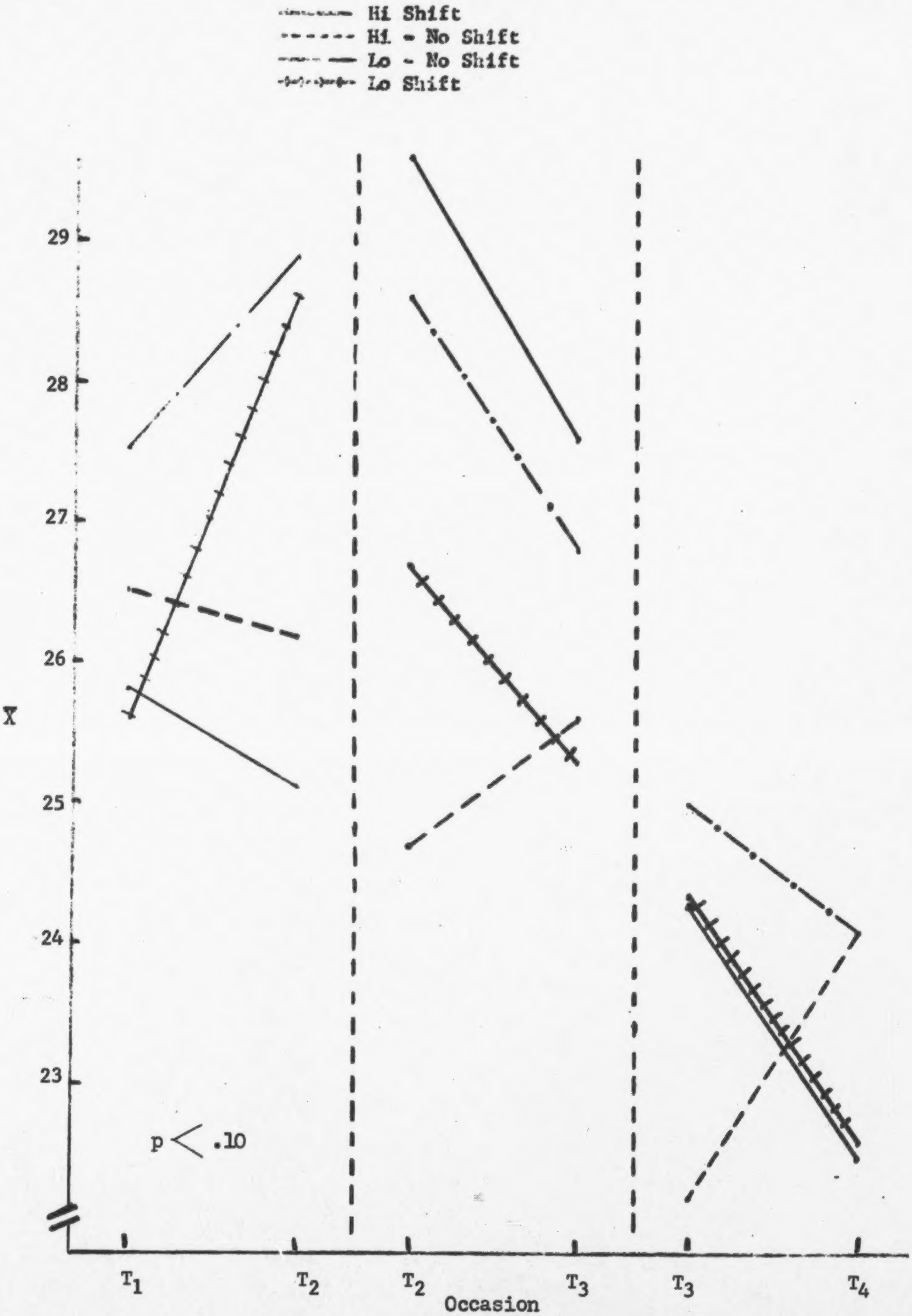

Figure 32. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and School Motivation, where one or more of the interactions is significant beyond the .10 level.

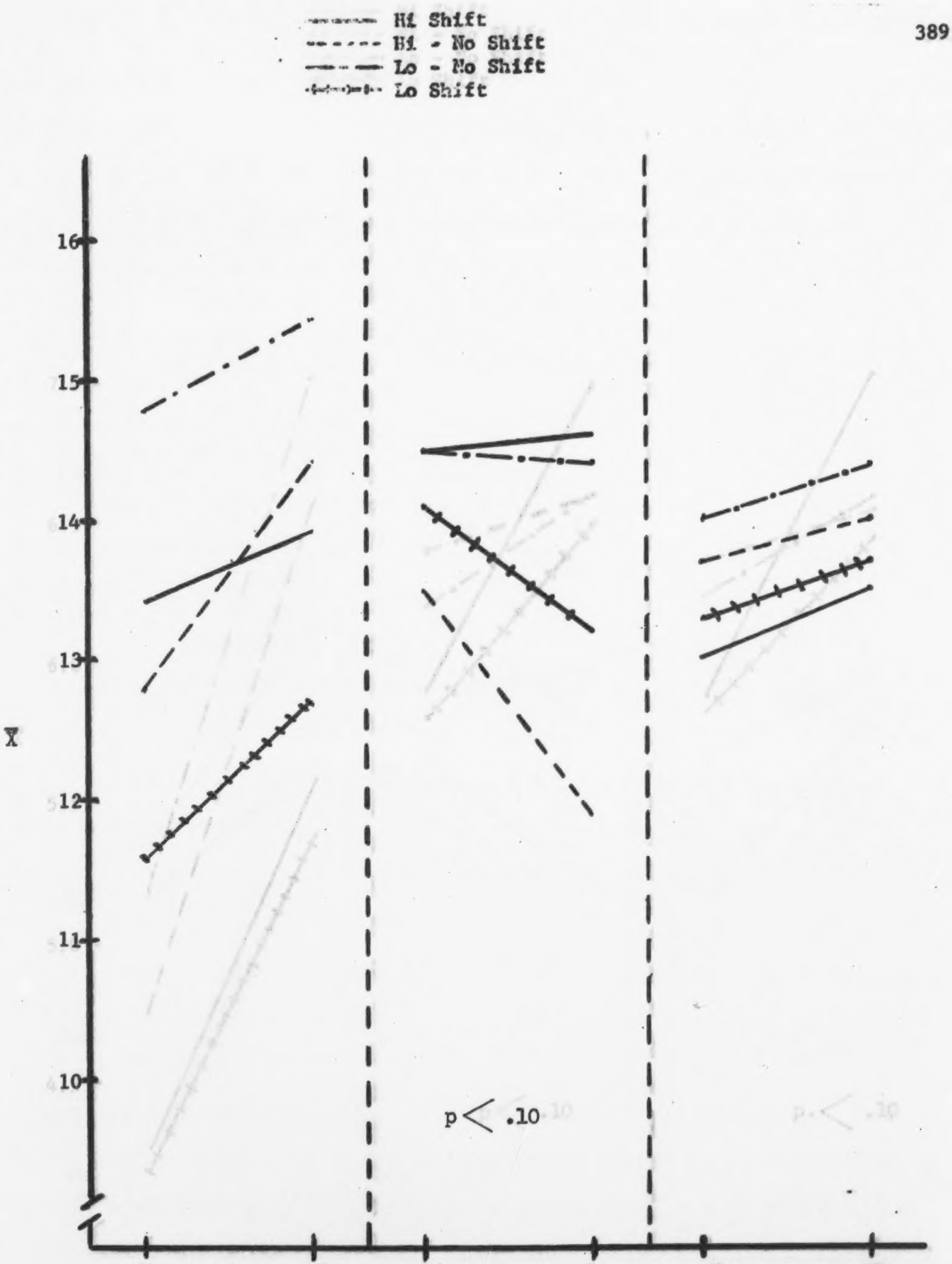

Figure 33. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Grade Point Average, where one or more of the interactions is significant beyond the .10 level.

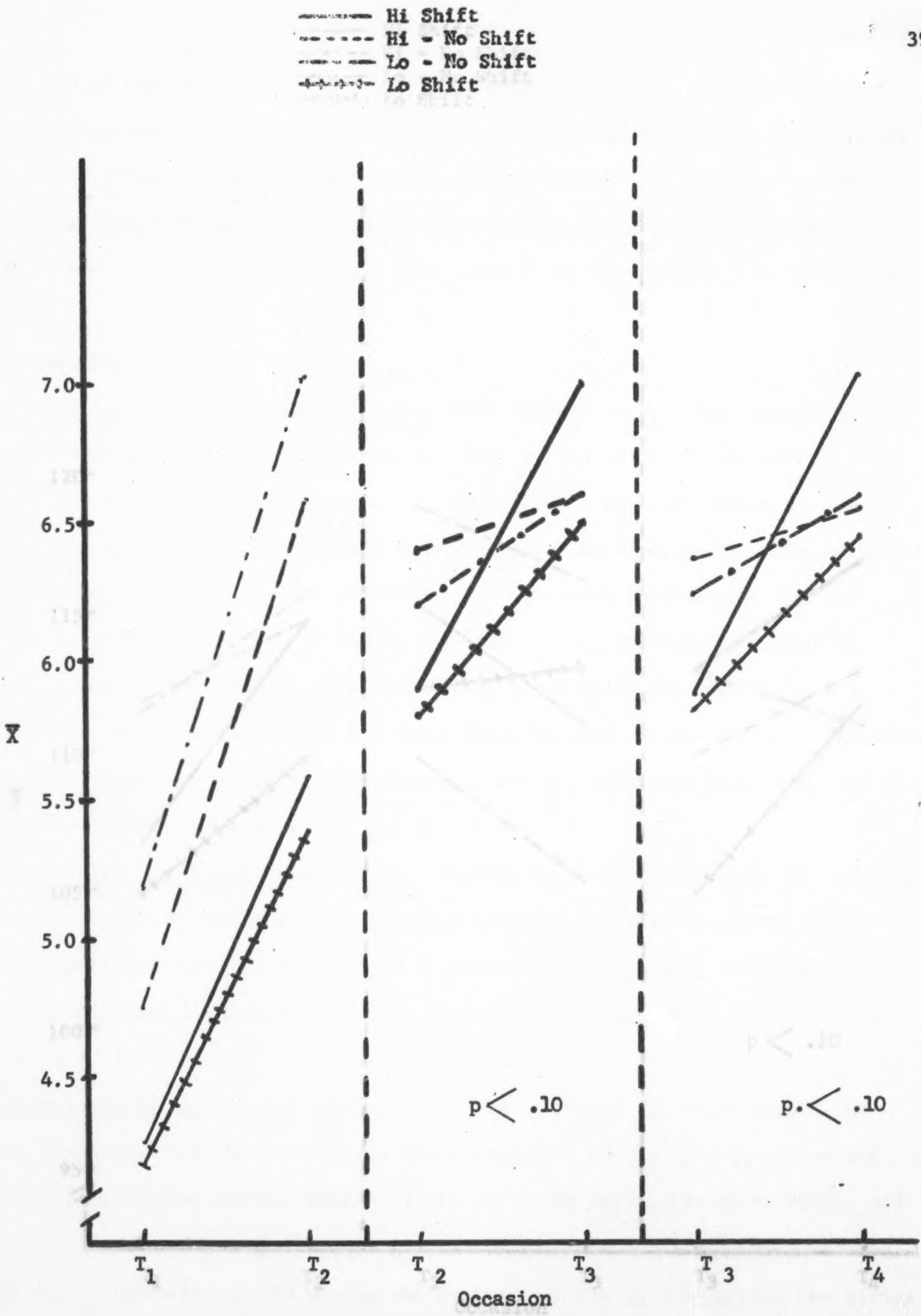

Figure 34. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and MAT Verbal, where one or more of the interactions is significant beyond the .10 level.

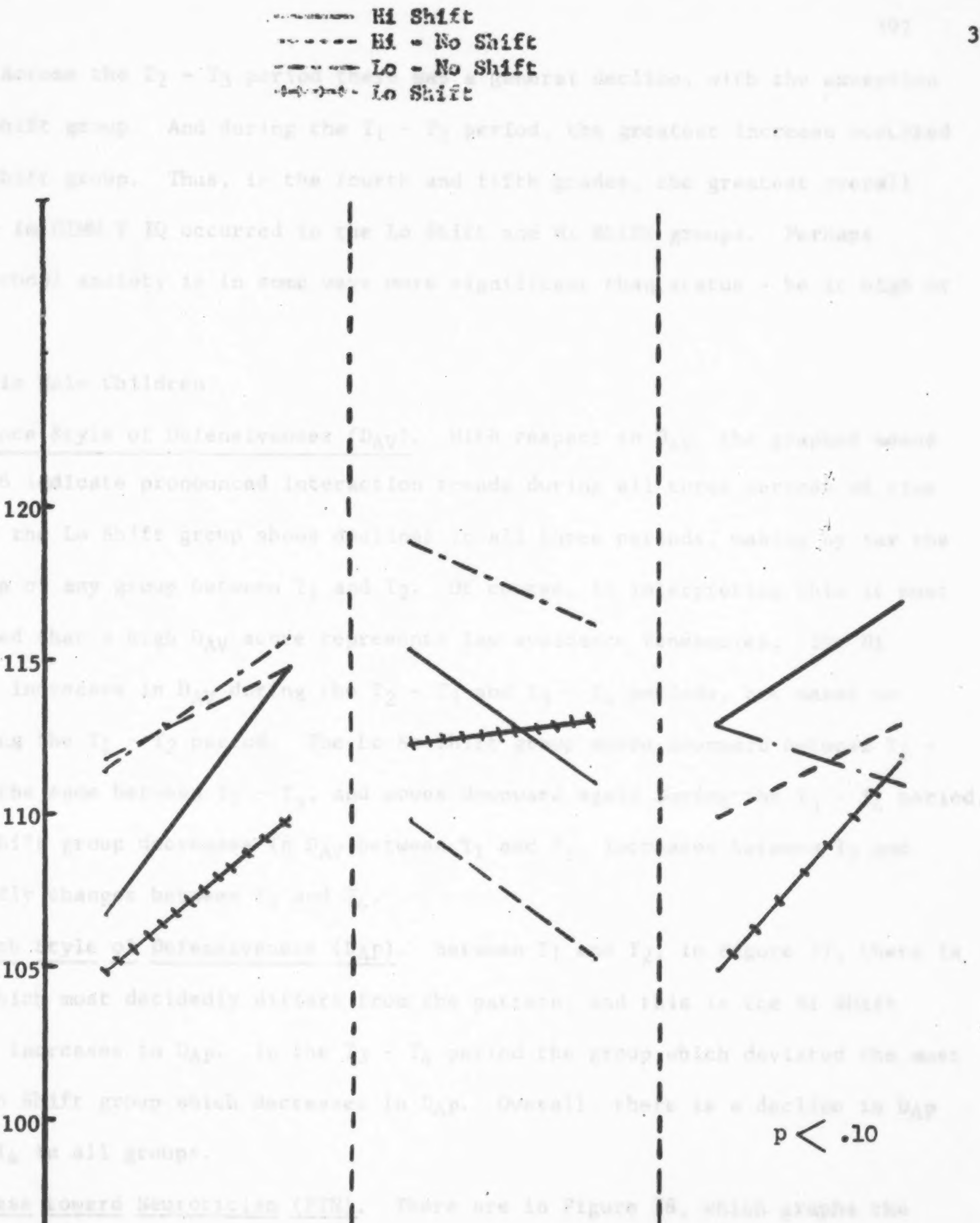

Figure 35. Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and CTMM Verbal IQ, where one or more of the interactions is significant beyond the .10 level.

progress. Across the T_2 - T_3 period there was a general decline, with the exception of the Lo Shift group. And during the T_1 - T_2 period, the greatest increase occurred in the Hi Shift group. Thus, in the fourth and fifth grades, the greatest overall improvement in CTMM V IQ occurred in the Lo Shift and Hi Shift groups. Perhaps change in school anxiety is in some ways more significant than status - be it high or low.

c. Non-Anglo Male Children

Avoidance Style of Defensiveness (D_{AV}). With respect to D_{AV}, the graphed means in Figure 36 indicate pronounced interaction trends during all three periods of time. In general, the Lo Shift group shows declines in all three periods, making by far the largest drop of any group between T_1 and T_2. Of course, in interpreting this it must be remembered that a high D_{AV} score represents low avoidance tendencies. The Hi Shift group increases in D_{AV} during the T_2 - T_3 and T_3 - T_4 periods, but makes no change during the T_1 - T_2 period. The Lo-No Shift group moves downward between T_1 - T_2 , stays the same between T_2 - T_3, and moves downward again during the T_3 - T_4 period. The Hi-No Shift group decreases in D_{AV} between T_1 and T_2, increases between T_2 and T_3, and hardly changes between T_3 and T_4.

Approach Style of Defensiveness (D_{AP}). Between T_1 and T_2, in Figure 37, there is one group which most decidedly differs from the pattern, and this is the Hi Shift group which increases in D_{AP}. In the T_3 - T_4 period the group which deviated the most is the Lo-No Shift group which decreases in D_{AP}. Overall, there is a decline in D_{AP} from T_1 to T_4 in all groups.

Proneness toward Neuroticism (PTN). There are in Figure 38, which graphs the PTN means, pronounced interactions in all three periods. In the T_1 - T_2 period the three groups with similar trends (downward) are the Hi-No Shift, the Lo-No Shift, and the Lo Shift groups, with the last group having the sharpest decline. The remaining group (Hi Shift) increases in PTN during the period. In the T_2 - T_3 period the groups are divided, with the Hi-No Shift and the Hi Shift groups increasing in PTN, and the remaining two groups decreasing in PTN. The same pairing up occurs with respect to the T_3 - T_4 period, where the Hi-No Shift and Lo Shift groups decrease in PTN, and

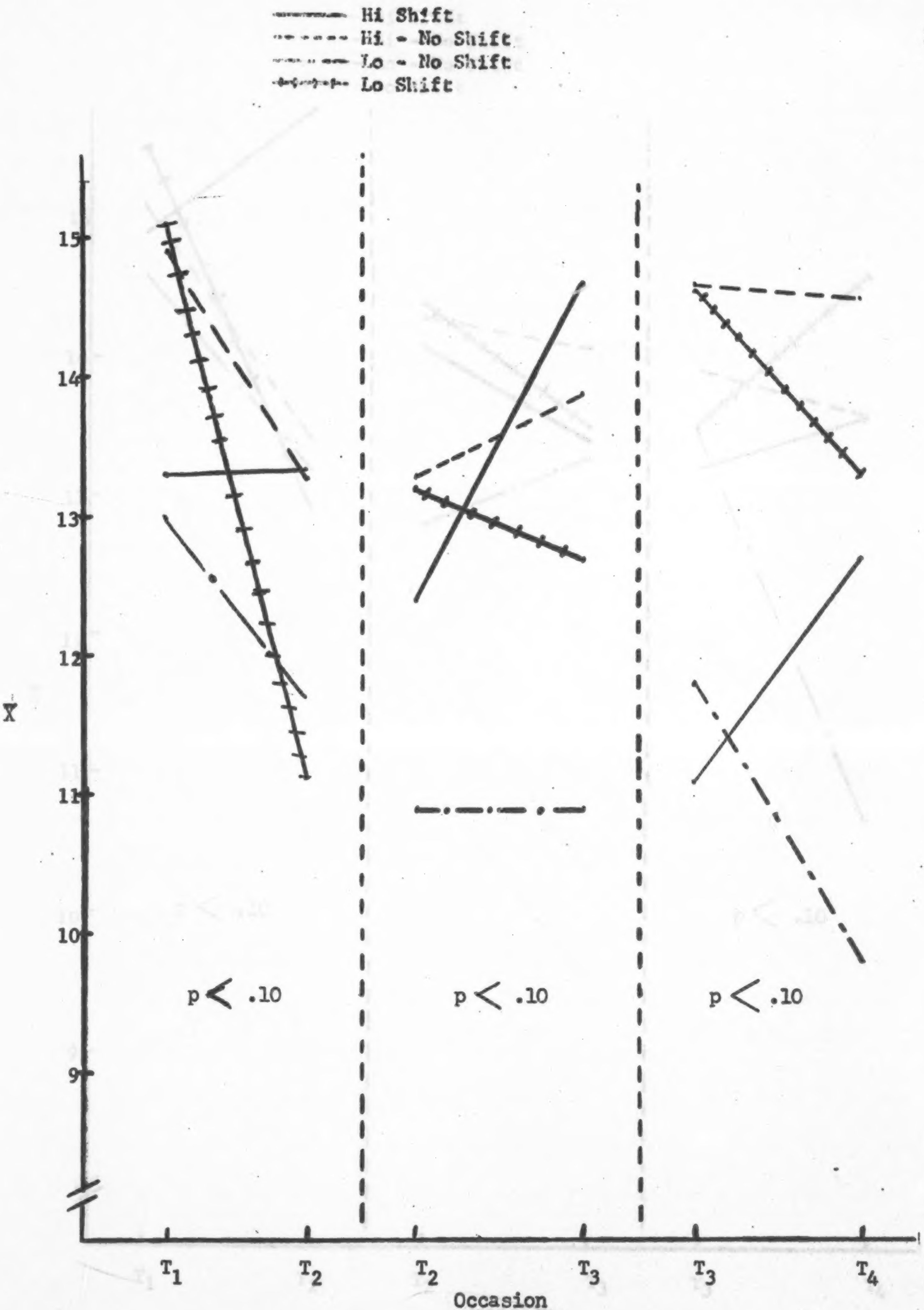

Figure 36. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Avoidance Style of Defensiveness, where one or more of the interactions is significant beyond the .10.

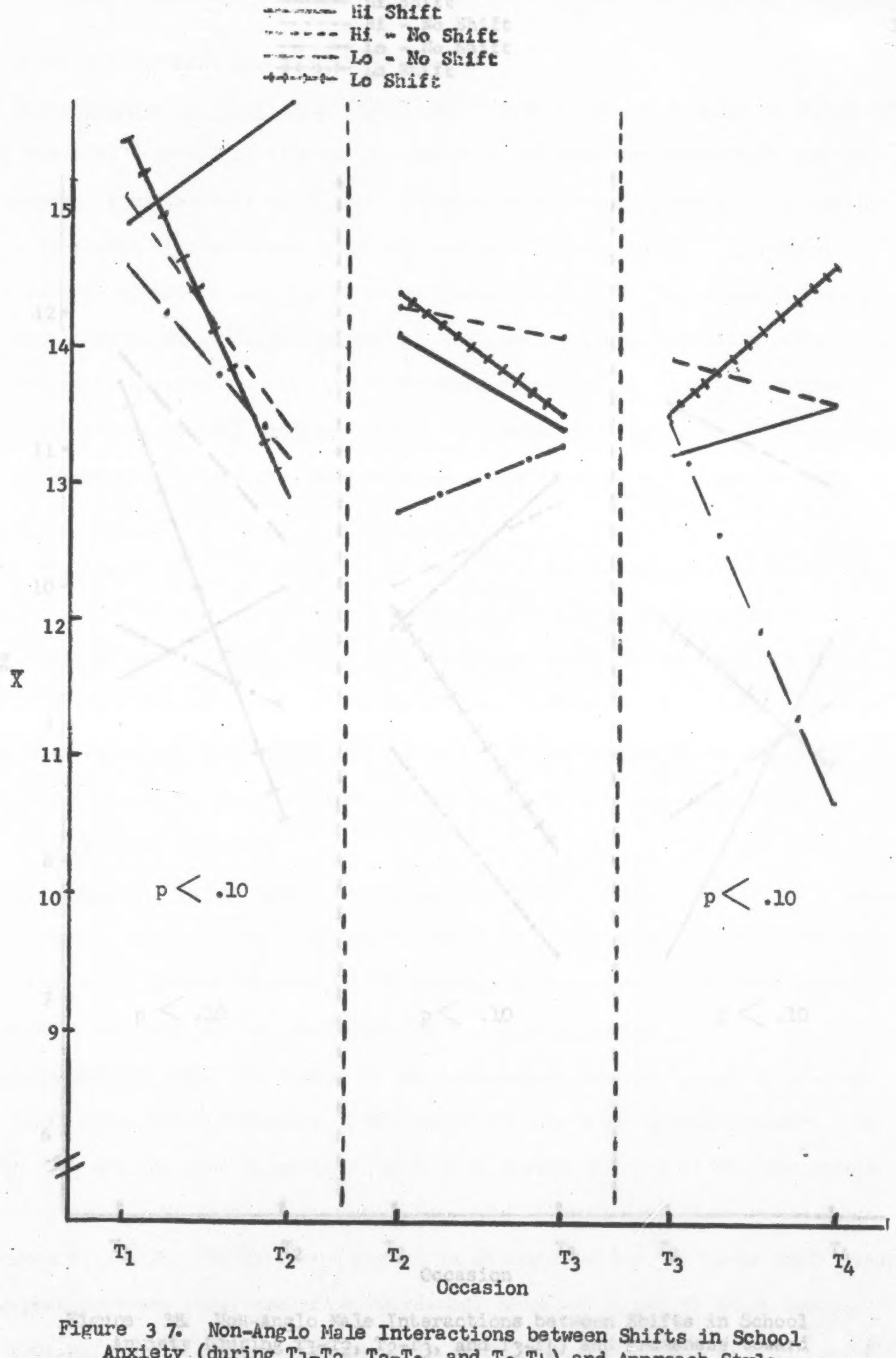

Figure 3 7. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Approach Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

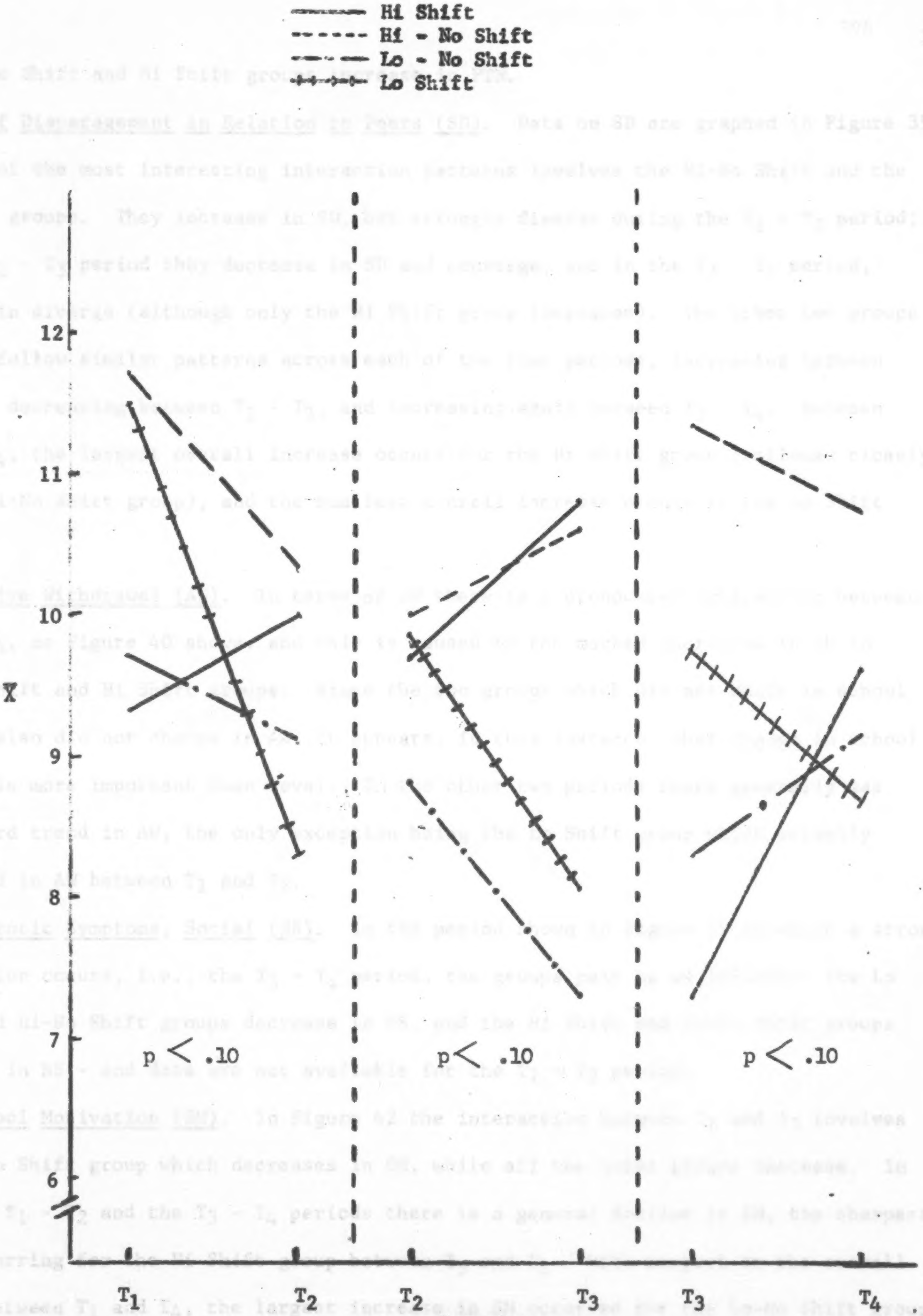

Figure 38. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Proneness toward Neuroticism, where one or more of the interactions is significant beyond the .10 level.

the Lo-No Shift and Hi Shift groups increase in PTN.

Self Disparagement in Relation to Peers (SD). Data on SD are graphed in Figure 39, and one of the most interesting interaction patterns involves the Hi-No Shift and the Lo Shift groups. They increase in SD, but strongly diverge during the T_1 - T_2 period; in the T_2 - T_3 period they decrease in SD and converge; and in the T_3 - T_4 period, they again diverge (although only the Hi Shift group increases). The other two groups tend to follow similar patterns across each of the time periods, increasing between T_1 - T_2, decreasing between T_2 - T_3, and increasing again between T_3 - T_4. Between T_1 and T_4, the largest overall increase occurs for the Hi Shift group (followed closely by the Hi-No Shift group), and the smallest overall increase occurs in the Lo Shift group.

Active Withdrawal (AW). In terms of AW there is a pronounced interaction between T_3 and T_4, as Figure 40 shows, and this is caused by the marked increases in AW in the Lo Shift and Hi Shift groups. Since the two groups which did not shift in school anxiety also did not change in AW, it appears, in this instance, that change in school anxiety is more important than level. In the other two periods there generally was a downward trend in AW, the only exception being the Lo Shift group which actually increased in AW between T_1 and T_2.

Neurotic Symptoms, Social (NS). In the period shown in Figure 11 in which a strong interaction occurs, i.e., the T_3 - T_4 period, the groups pair up as follows: the Lo Shift and Hi-No Shift groups decrease in NS, and the Hi Shift and Lo-No Shift groups increase in NS - and data are not available for the T_1 - T_2 period.

School Motivation (SM). In Figure 42 the interaction between T_2 and T_3 involves the Hi-No Shift group which decreases in SM, while all the other groups increase. In both the T_1 - T_2 and the T_3 - T_4 periods there is a general decline in SM, the sharpest drop occurring for the Hi Shift group between T_3 and T_4. With respect to the overall change between T_1 and T_4, the largest increase in SM occurred for the Lo-No Shift group, and the largest decrease (only one group decreased) occurred in the Hi Shift group.

MAT Nonverbal (NV). In Figure 43 there is an interaction for the T_2 - T_3 period which appears to result primarily from the Lo-No Shift group which did not change, for

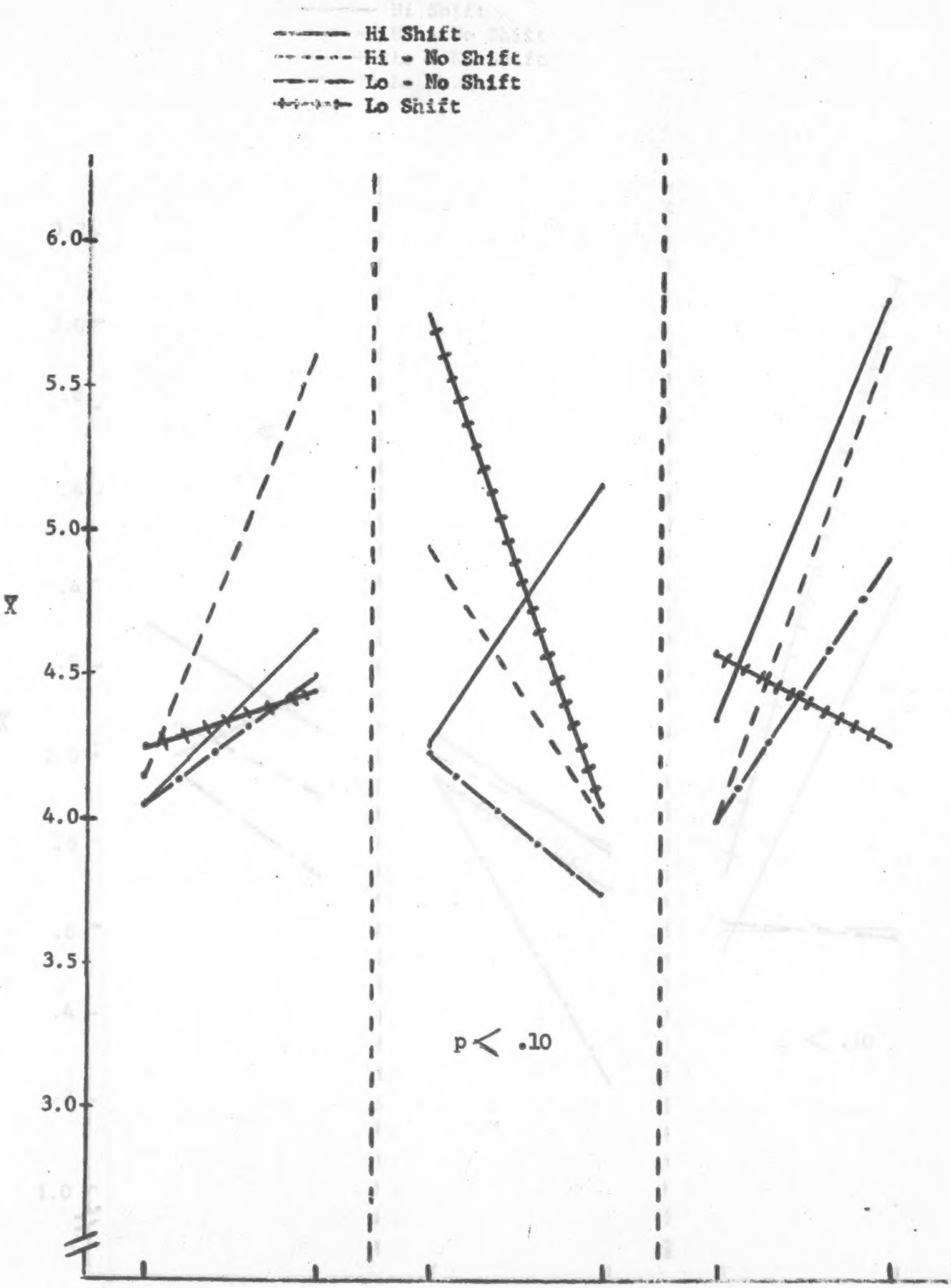

Figure 39. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Self Disparagement, in relation to Peers, where one or more of the interactions is significant beyond the .10 level.

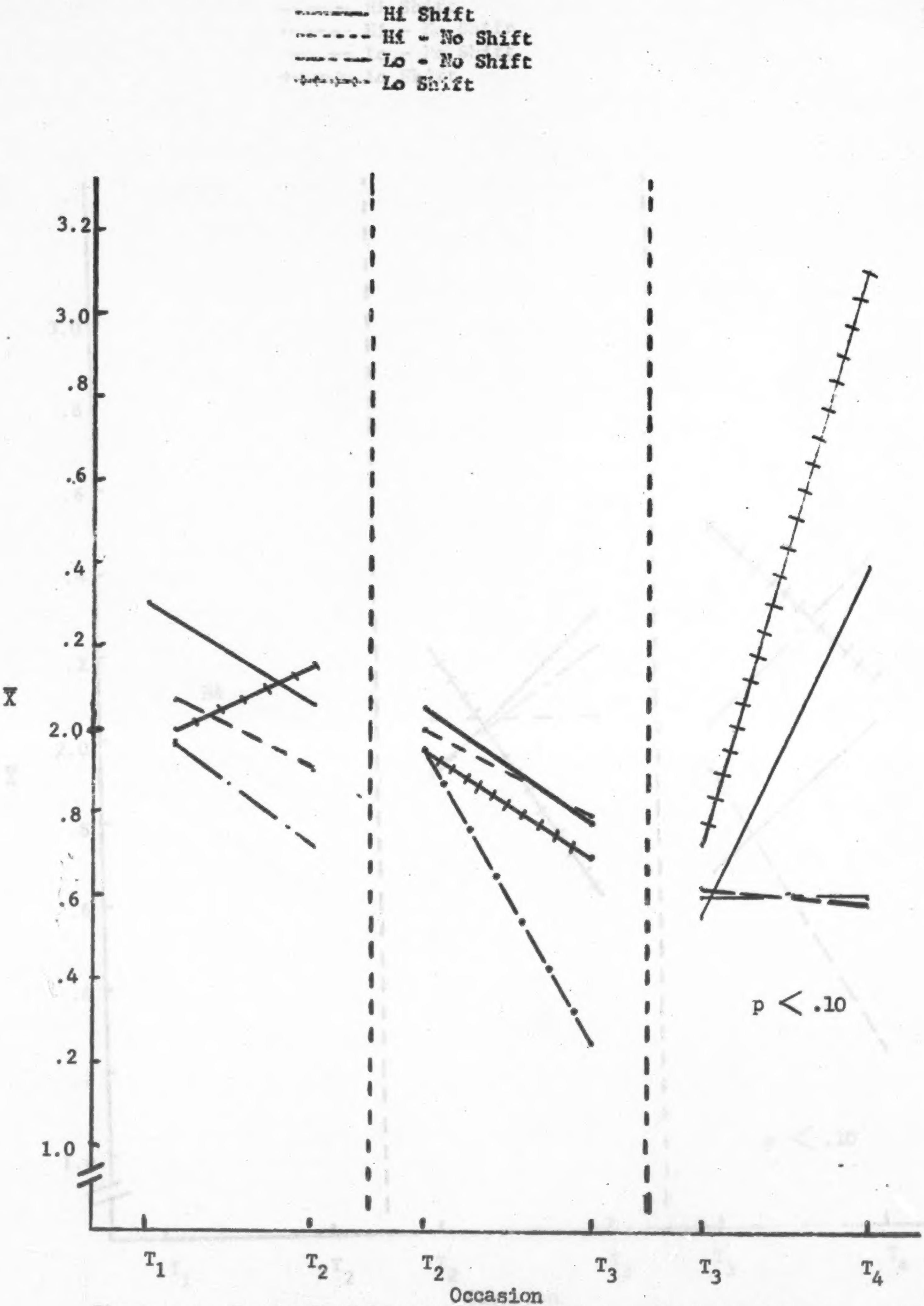

Figure 40 . Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Active Withdrawal, where one or more of the interactions is significant beyond the .10 level.

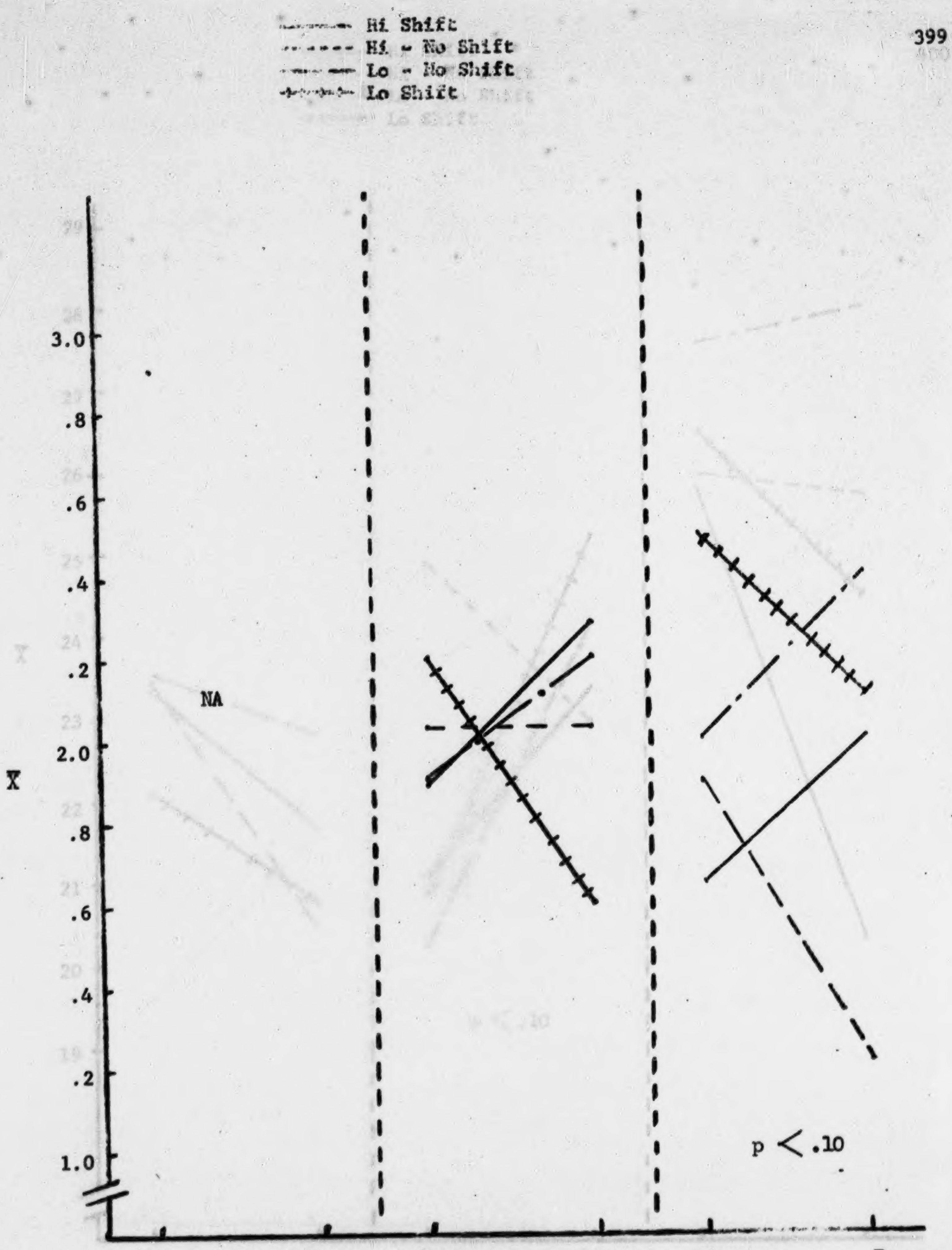

Figure 41. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Neurotic Symptoms, Social, where one or more of the interactions is significant beyond the .10 level.

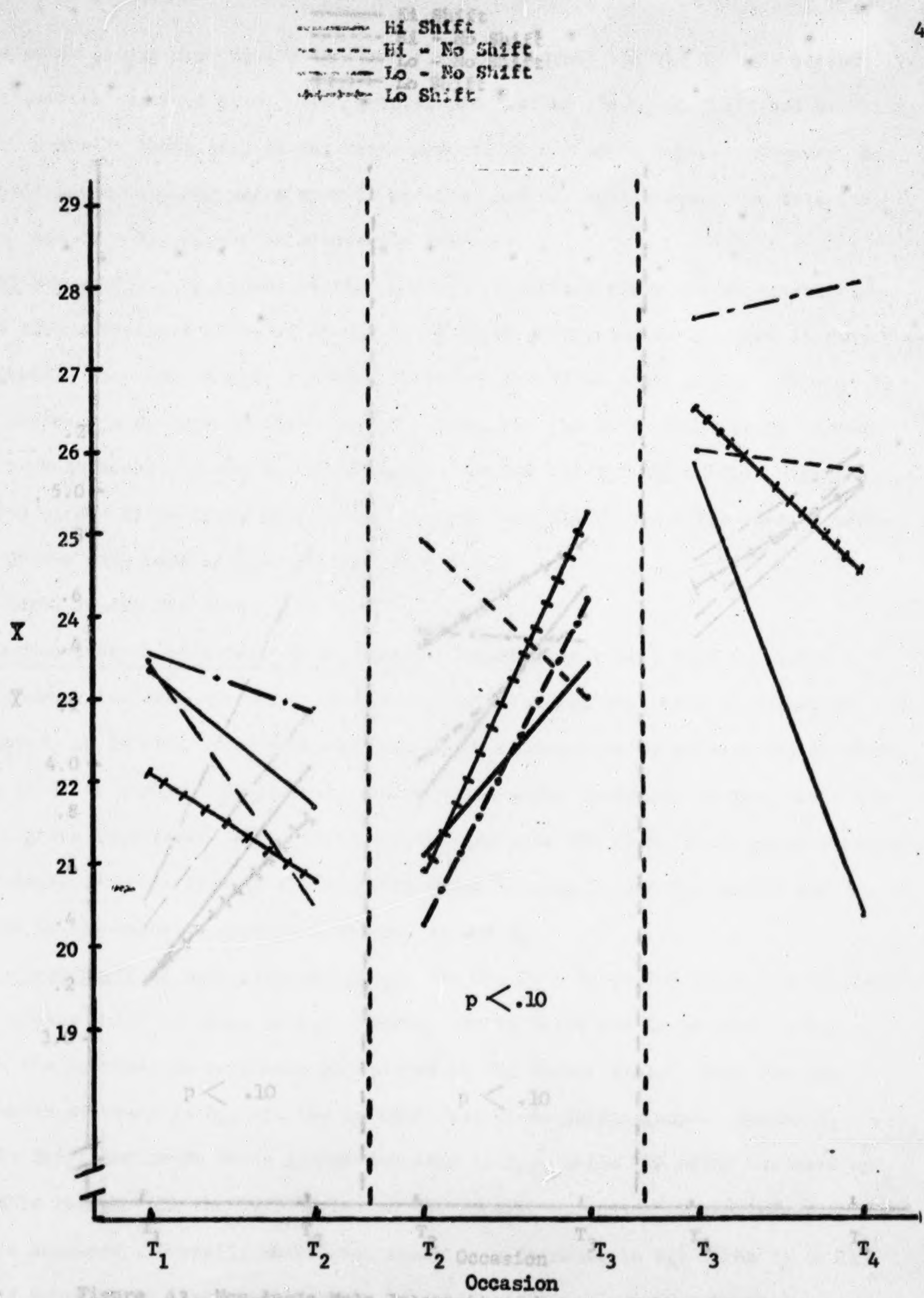

Figure 42. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and School Motivation, where one or more of the interactions is significant beyond the .10 level.

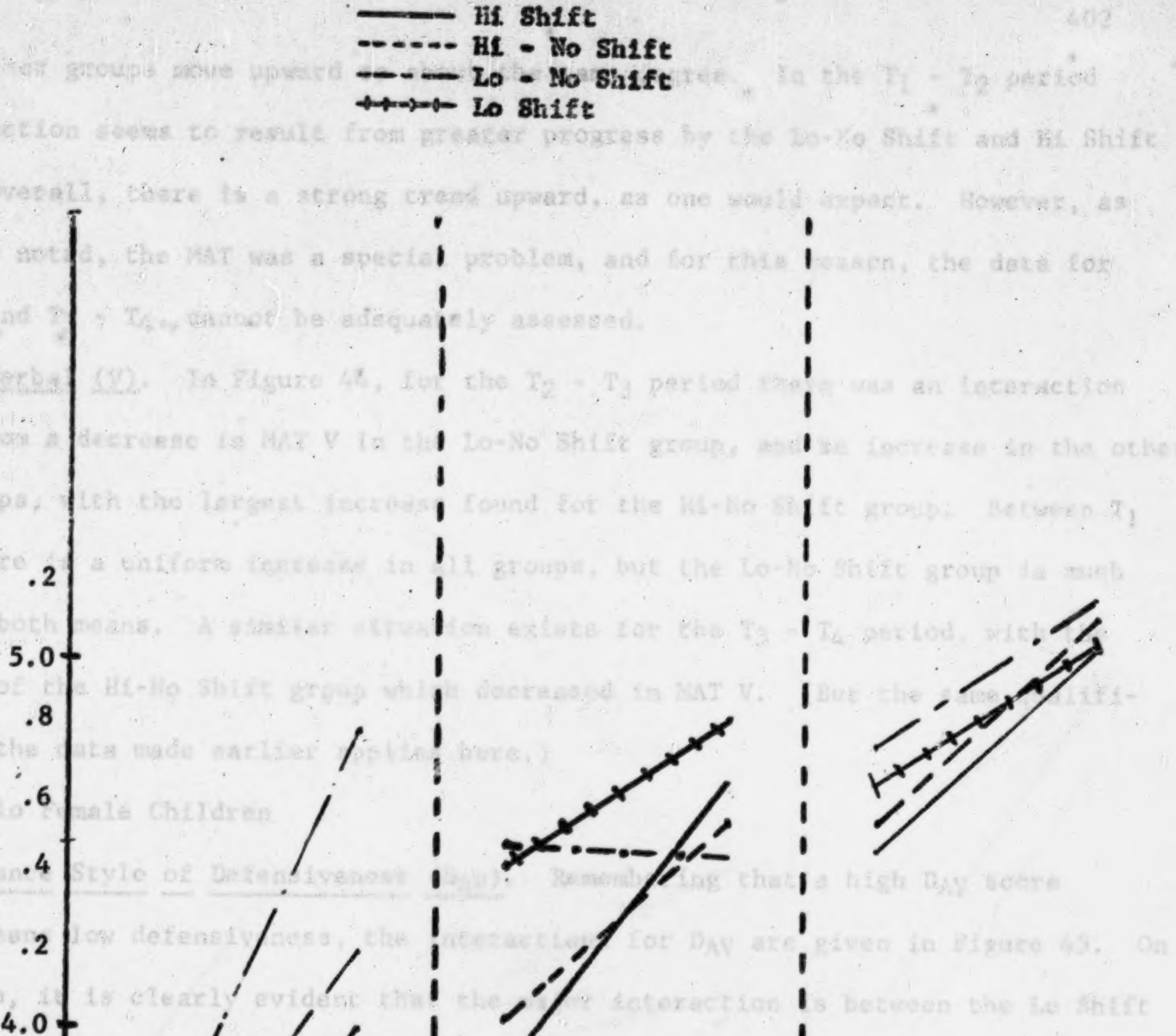

Figure 43. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and MAT NonVerbal, where one or more of the interactions is significant beyond the .10 level.

all the other groups move upward to about the same degree. In the T_1 - T_2 period the interaction seems to result from greater progress by the Lo-No Shift and Hi Shift groups. Overall, there is a strong trend upward, as one would expect. However, as previously noted, the MAT was a special problem, and for this reason, the data for T_2 - T_3, and T_3 - T_4, cannot be adequately assessed.

MAT Verbal (V). In Figure 44, for the T_2 - T_3 period there was an interaction derived from a decrease in MAT V in the Lo-No Shift group, and an increase in the other three groups, with the largest increase found for the Hi-No Shift group. Between T_1 and T_2 there is a uniform increase in all groups, but the Lo-No Shift group is much higher on both means. A similar situation exists for the T_3 - T_4 period, with the exception of the Hi-No Shift group which decreased in MAT V. (But the same qualification of the data made earlier applies here.)

d. Non-Anglo Female Children

Avoidance Style of Defensiveness (D_{AV}). Remembering that a high D_{AV} score actually means low defensiveness, the interactions for D_{AV} are given in Figure 45. On examination, it is clearly evident that the major interaction is between the Lo Shift and the Hi Shift groups. In general, the Hi Shift group decreases in D_{AV}, while the Lo Shift group increases. Also, it is interesting that the Hi-No Shift group parallels, to some degree, the pattern of the Lo Shift group between T_1 and T_2, and T_3 and T_4, but moves in the opposite direction between T_2 and T_3.

Approach Style of Defensiveness (D_{AP}). In the T_1 - T_2 period in Figure 46 there are two groups which increase in D_{AP}, namely, the Hi Shift and Lo-No Shift group although the increase is much more pronounced in the former group. And, the two groups which decrease in D_{AP} are the Lo Shift and Hi-No Shift groups. During T_2 - T_3 the Lo Shift and Lo-No Shift groups decrease in D_{AP}, while the other two make no appreciable change. In the T_3 - T_4 period the general direction of the trends of the groups is downward. Overall, therefore, there is a decrease in D_{AP} (from T_1 to T_4).

Self Enhancement through Derogation of Others (SE). The main interaction present in the T_1 - T_2 period, as shown in Figure 47, is due to the Lo Shift group, which decreases in SE, and the Hi Shift group, which increases in SE. During T_2 - T_3, all

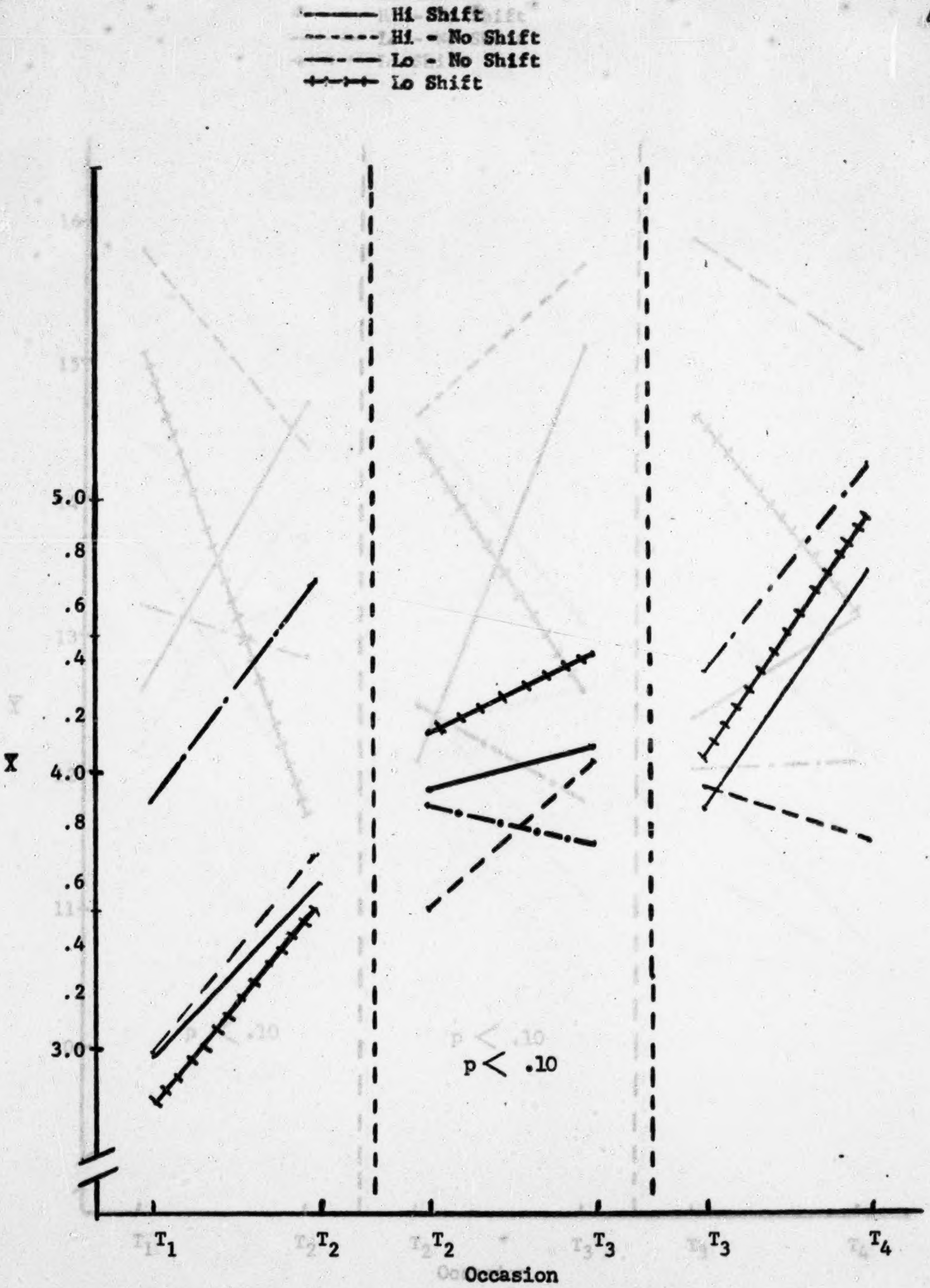

Figure 44. Non-Anglo Male Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and MAT Verbal, where one or more of the interactions is significant beyond the .10 level.

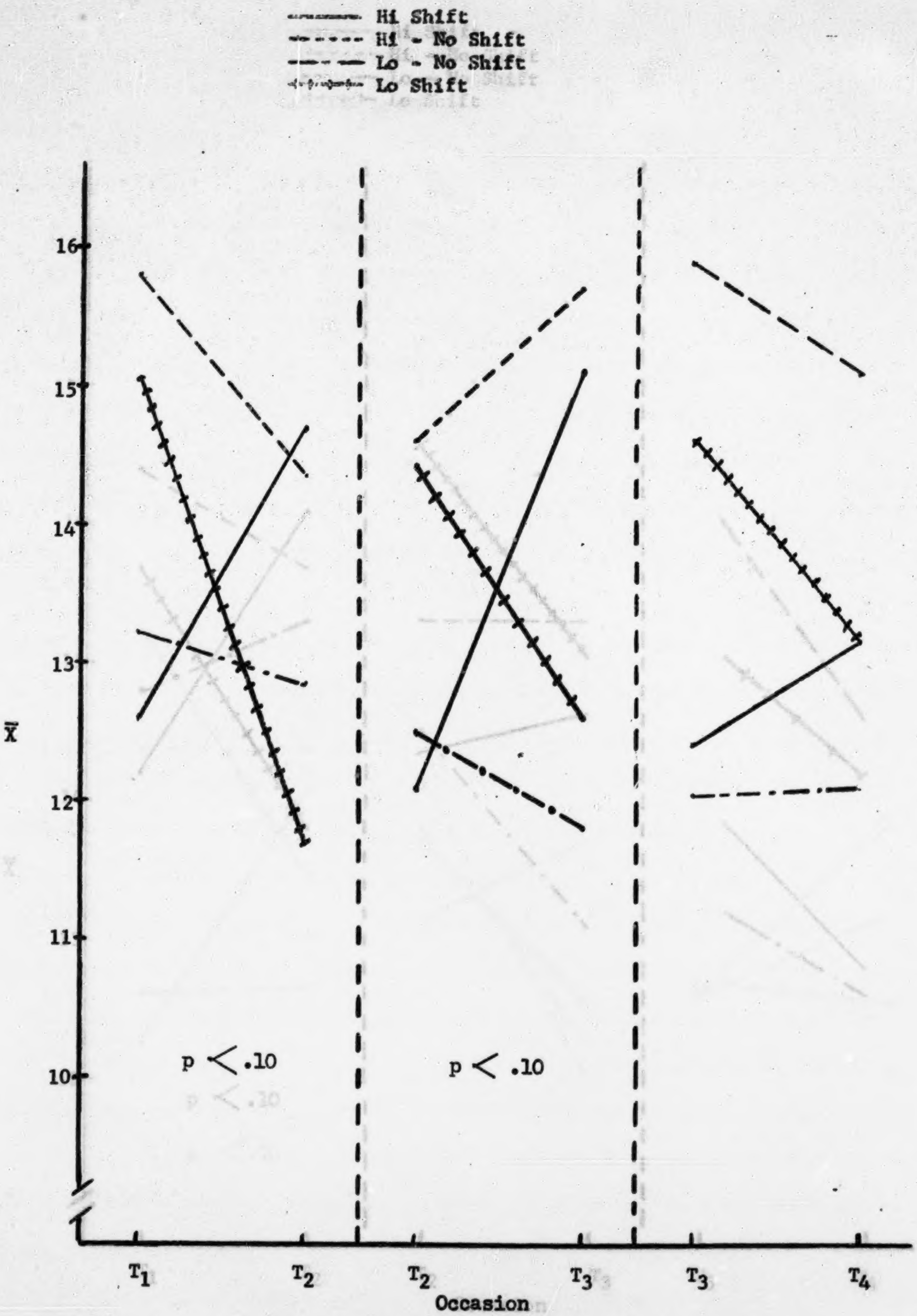

Figure 45. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Avoidance Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

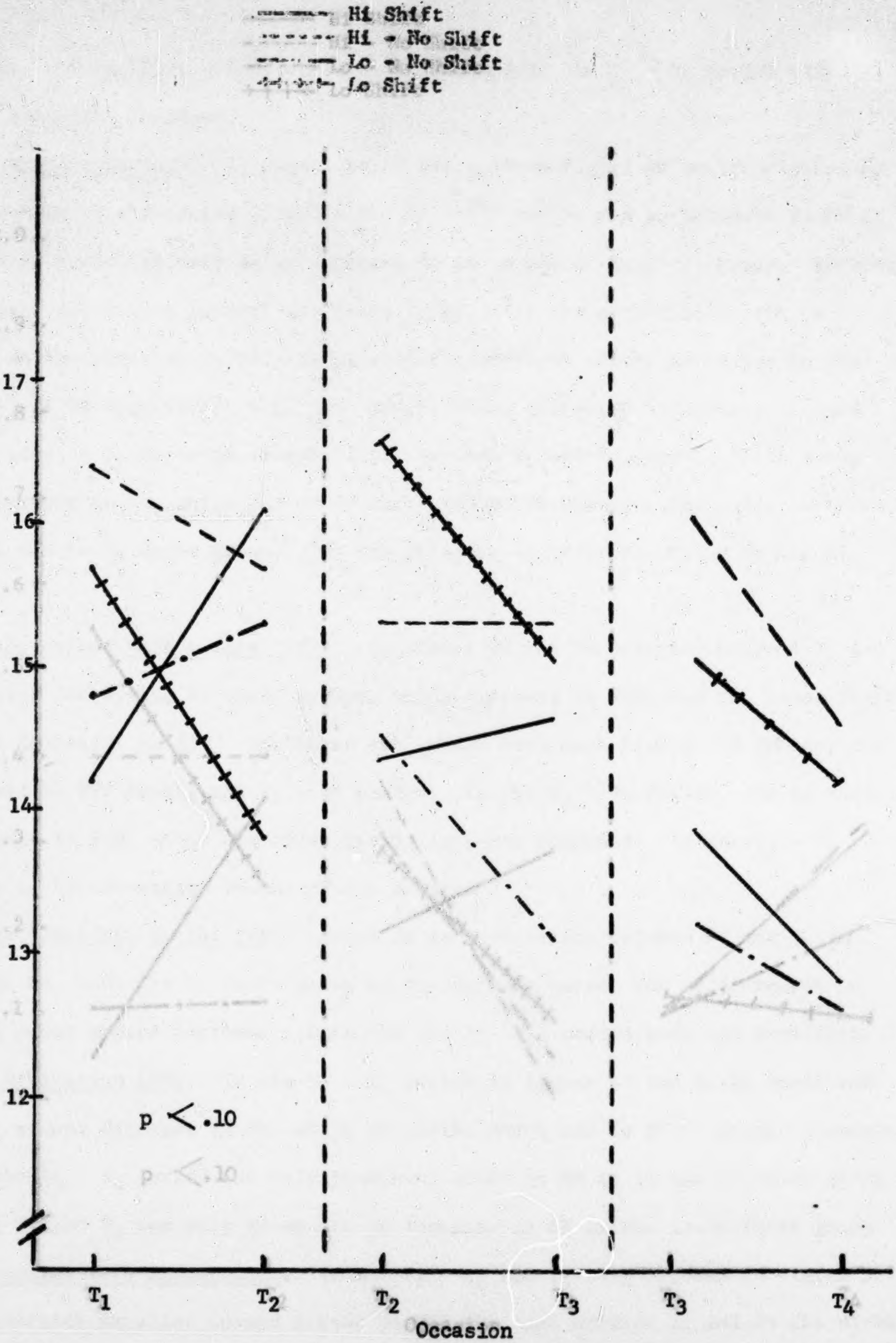

Figure 46. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Approach Style of Defensiveness, where one or more of the interactions is significant beyond the .10 level.

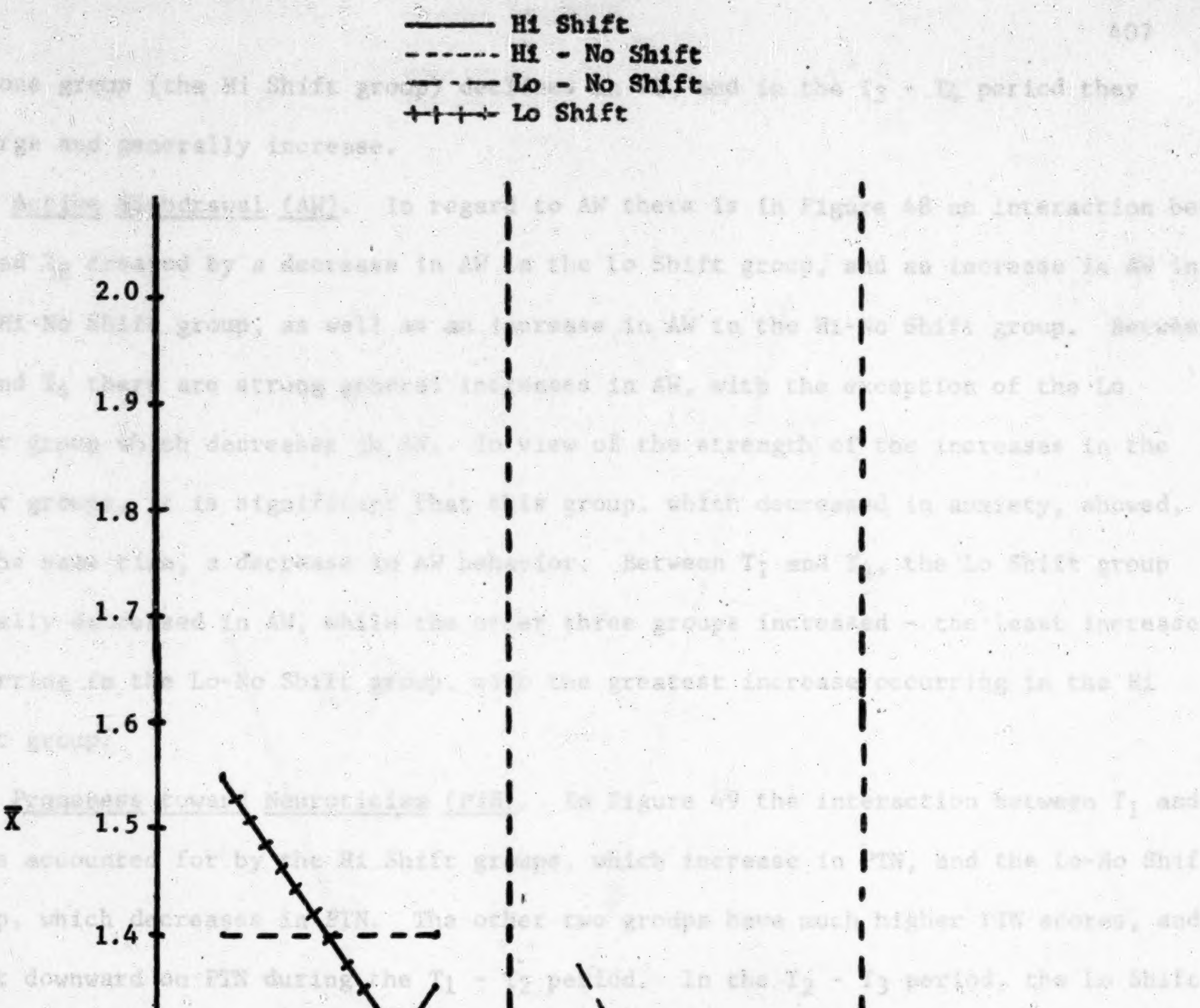

Figure 47. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Self Enhancement through Derogation of Others, where one or more of the interactions is significant beyond the .10 level.

but one group (the Hi Shift group) declines in SE, and in the T_3 - T_4 period they diverge and generally increase.

Active Withdrawal (AW). In regard to AW there is in Figure 48 an interaction between T_1 and T_2 created by a decrease in AW in the Lo Shift group, and an increase in AW in the Hi-No Shift group, as well as an increase in AW in the Hi-No Shift group. Between T_3 and T_4 there are strong general increases in AW, with the exception of the Lo Shift group which decreases in AW. In view of the strength of the increases in the other groups, it is significant that this group, which decreased in anxiety, showed, at the same time, a decrease in AW behavior. Between T_1 and T_4, the Lo Shift group actually decreased in AW, while the other three groups increased - the least increase occurring in the Lo-No Shift group, with the greatest increase occurring in the Hi Shift group.

Proneness toward Neuroticism (PTN). In Figure 49 the interaction between T_1 and T_2 is accounted for by the Hi Shift groups, which increase in PTN, and the Lo-No Shift group, which decreases in PTN. The other two groups have much higher PTN scores, and shift downward on PTN during the T_1 - T_2 period. In the T_2 - T_3 period, the Lo Shift group decreases in PTN, while the other groups increase somewhat. In the T_3 - T_4 period there is little change in any of the groups.

Neurotic Symptoms, Social (NS). There is an interaction between T_3 and T_4 in Figure 50 for NS, with the Lo Shift group as the primary cause, for it decreases in NS while the other groups increase. Data for the T_1 - T_2 period were not available.

School Motivation (SM). In the T_3 - T_4 period in Figure 51 the Hi-No Shift and the Hi Shift groups decrease in SM, while the Lo-No Shift and Lo Shift groups increase in SM. In the T_1 - T_2 period the only prominent shift in SM is in the Lo Shift group. And, between T_2 and T_3 the only group not to increase in SM is the Lo-No Shift group.

MAT Nonverbal (NV) Achievement. In the T_1 - T_2 and T_3 - T_4 periods in Figure 52 there are generally parallel upward trends in MAT NV. But between T_2 and T_3 the Hi-No Shift and Hi Shift, groups increase more than the other two groups. As previously noted, the amount of increase between T_3 and T_4 appears to have been attenuated by instrument factors.

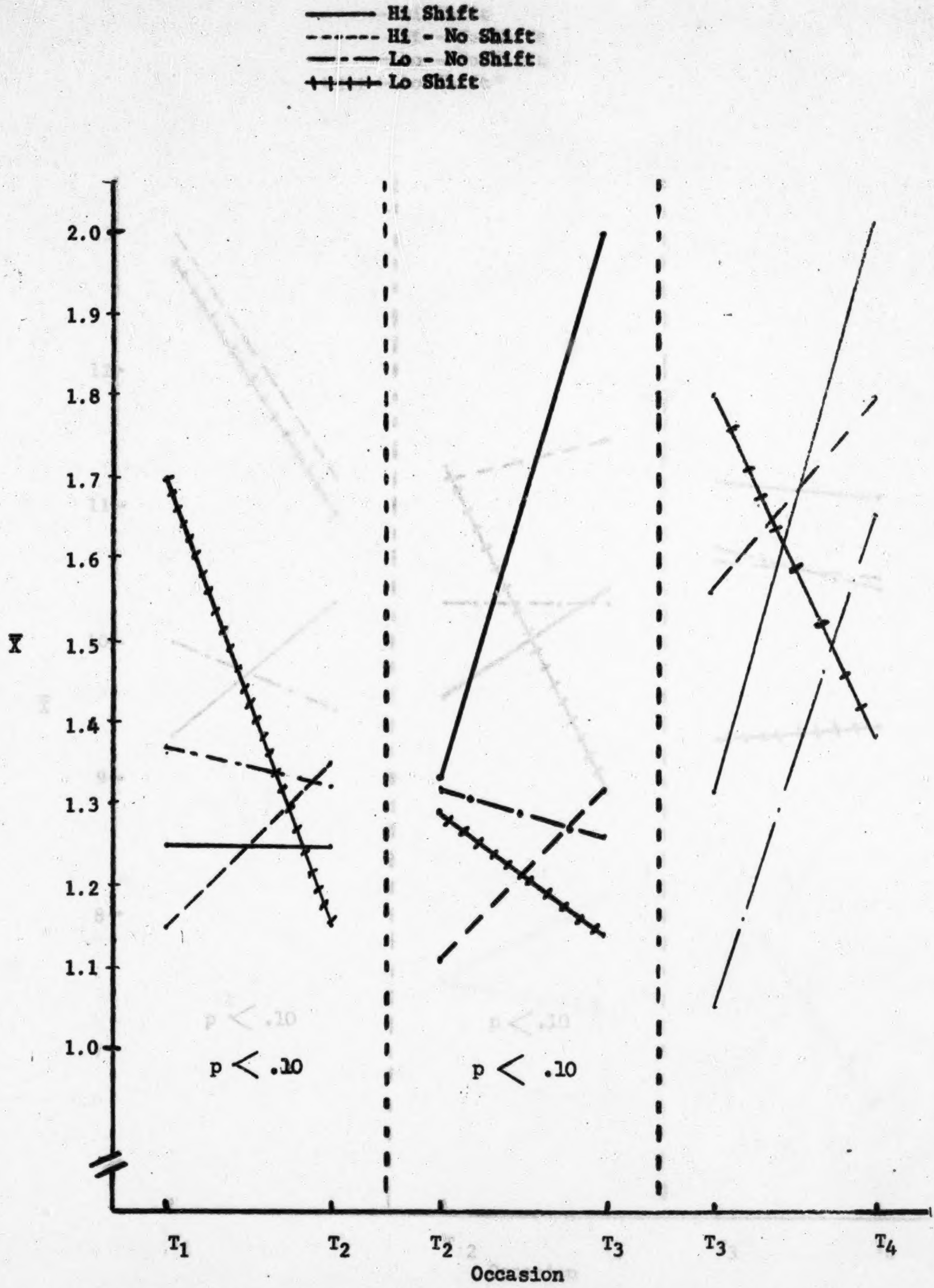

Figure 48. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Active Withdrawal, where one or more of the interactions is significant beyond the .10 level.

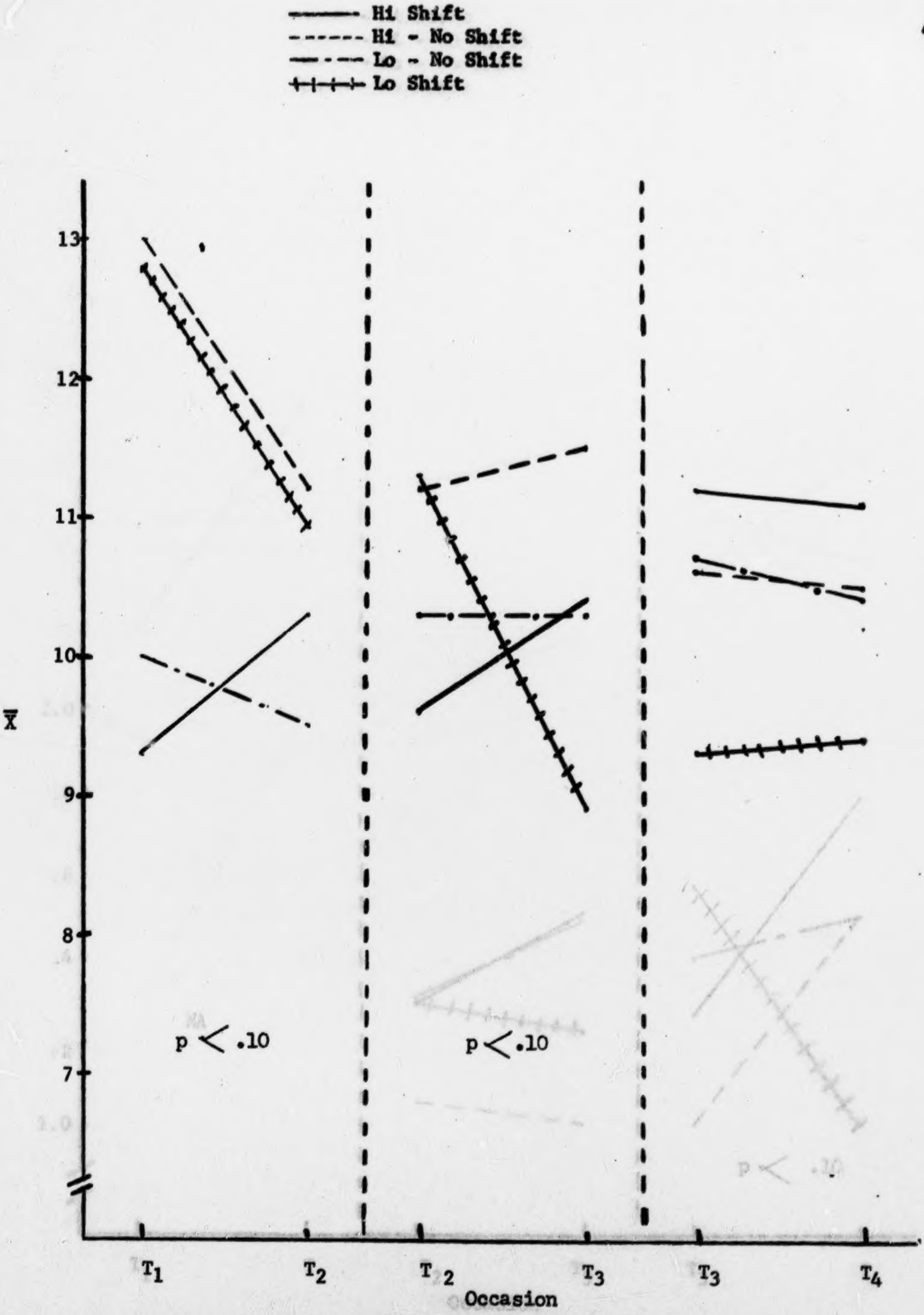

Figure 49. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Proneness toward Neuroticism, where one or more of the interactions is significant beyond the .10 level.

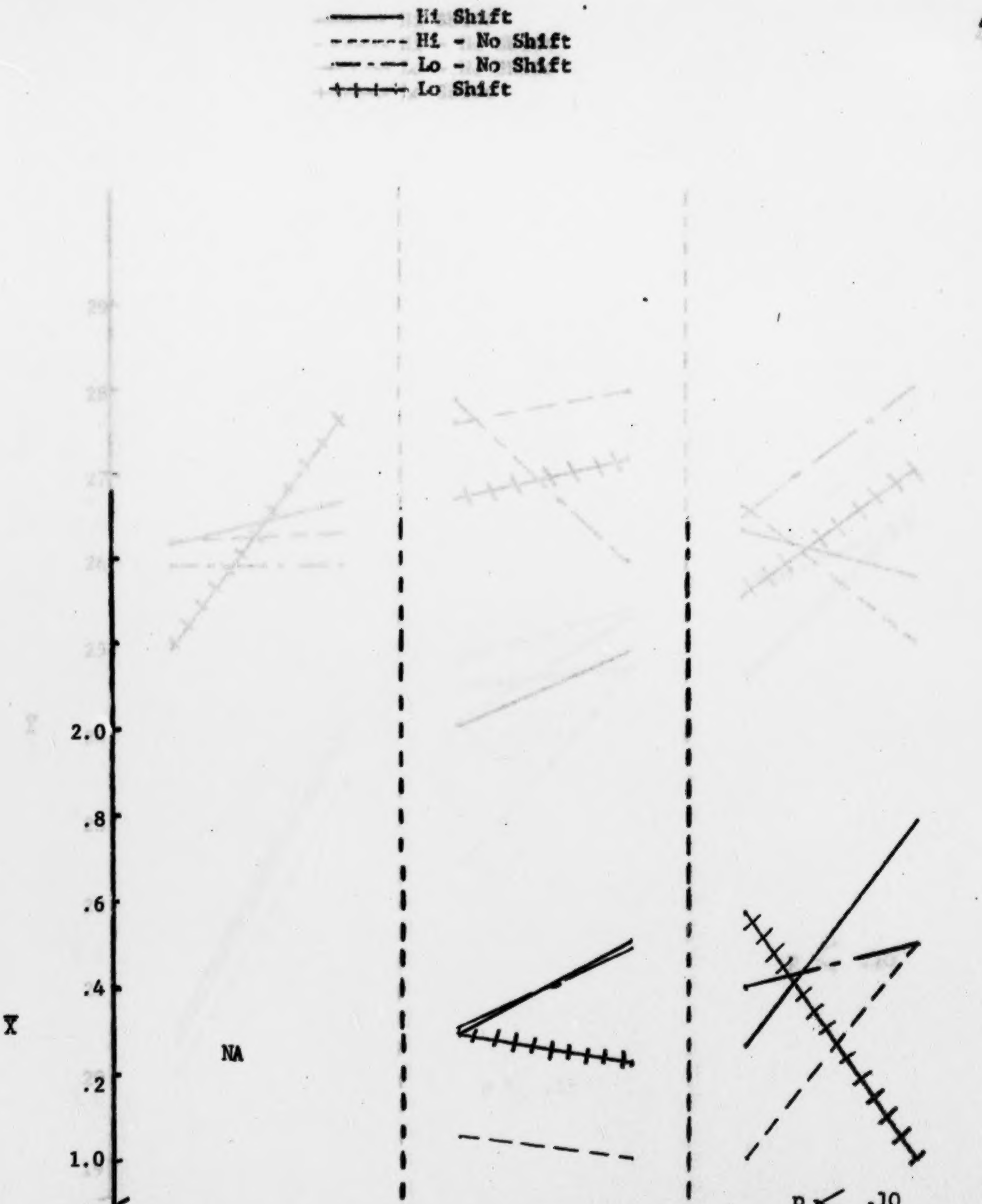

Figure 50. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and Neurotic Symptoms, Social, where one or more of the interactions is significant beyond the .10 level.

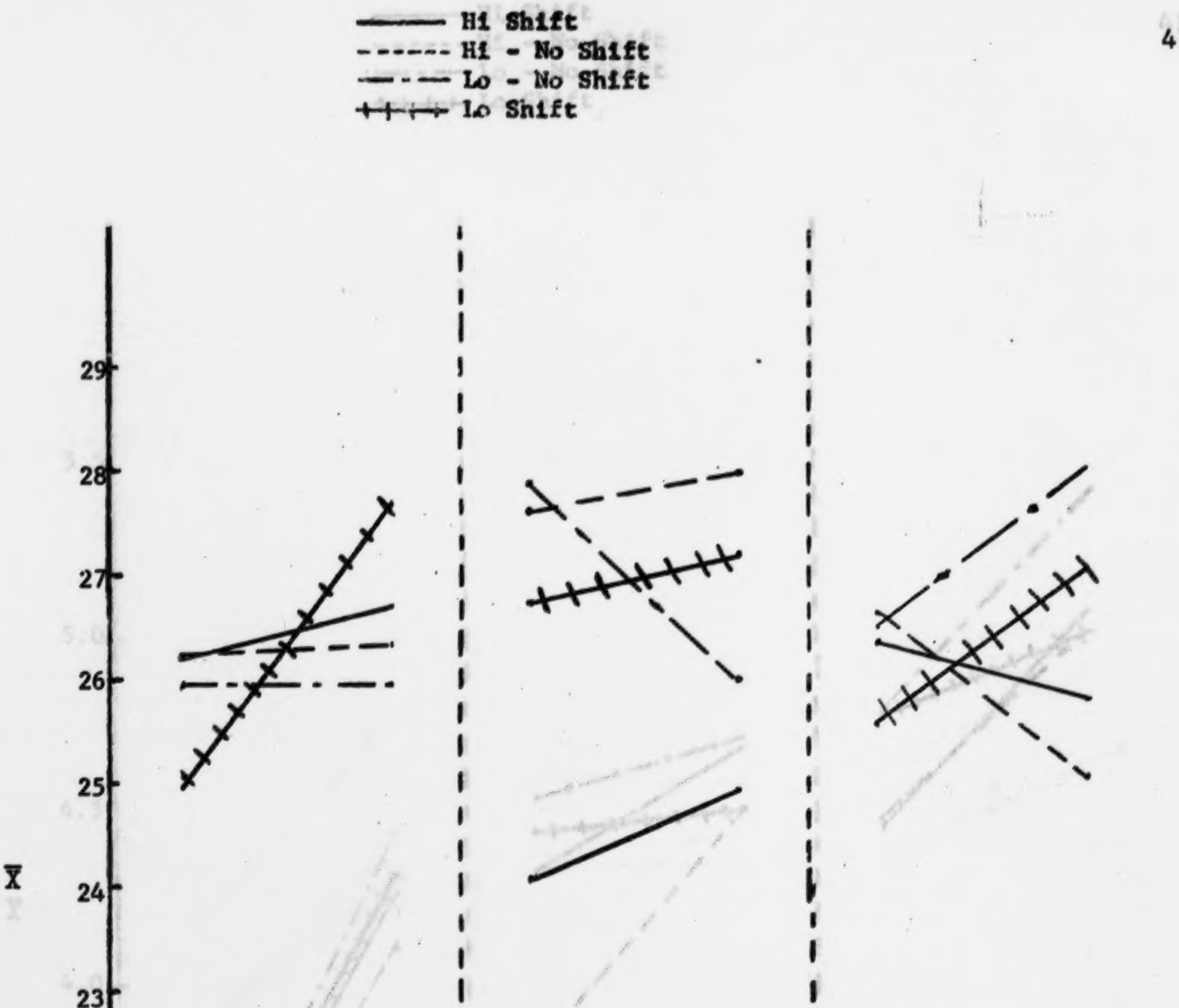

Figure 51. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and School Motivation, where one or more of the interactions is significant beyond the .10 level.

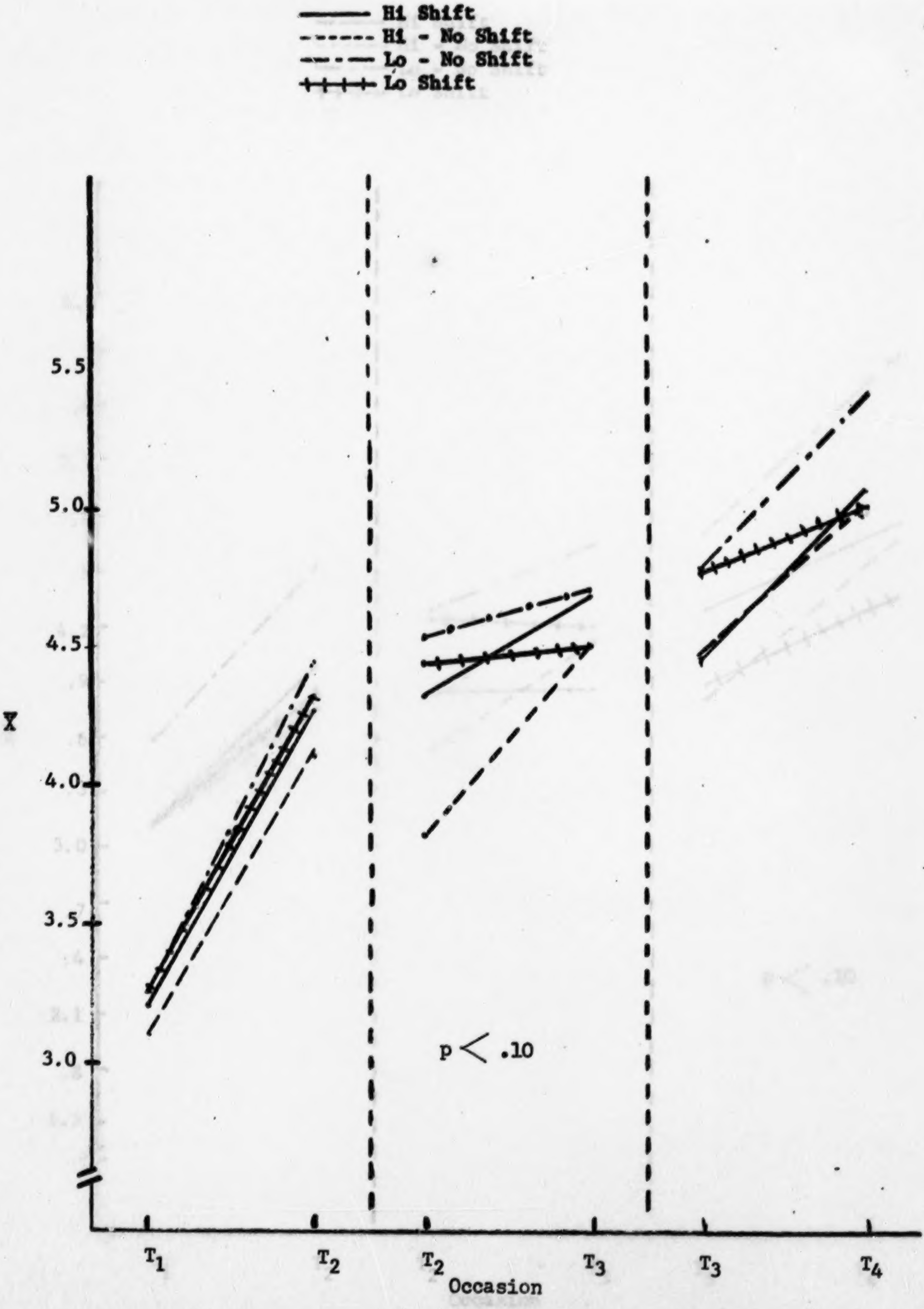

Figure 52. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and MAT NonVerbal, where one or more of the interactions is significant beyond the .10 level.

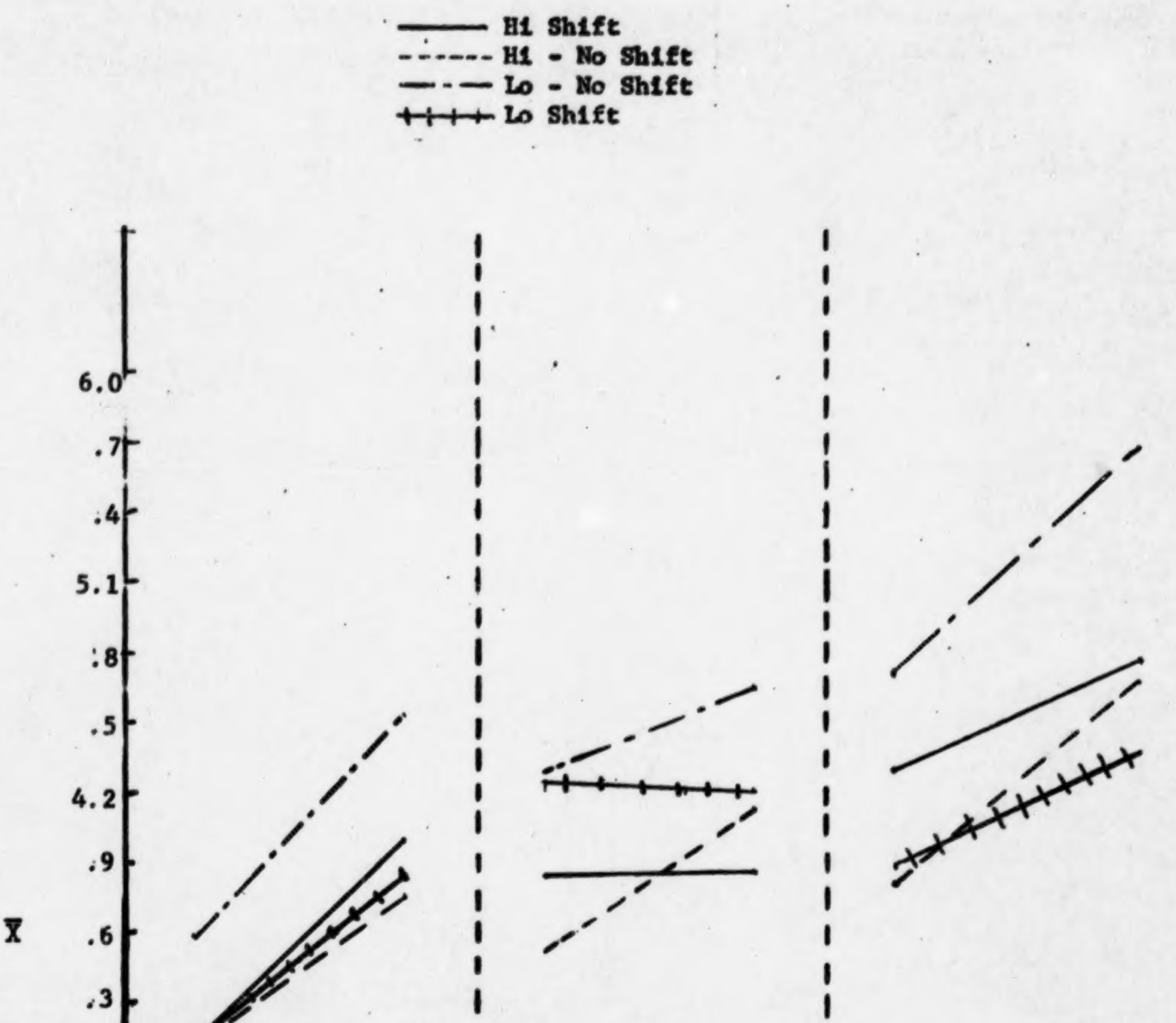

Figure 53. Non-Anglo Female Interactions between Shifts in School Anxiety (during T_1-T_2, T_2-T_3, and T_3-T_4) and MAT Verbal, where one or more of the interactions is significant beyond the .10 level.

MAT Verbal (V) Achievement. Between T_3 and T_4, in Figure 53, the Lo-No Shift and the Hi-No Shift groups increase in MAT V more strongly than the other two groups. And, essentially the same pattern occurs between T_2 and T_3, but not between T_1 and T_2 where uniform increases occur.

Chapter 4

Discussion and Implications

In this chapter we will be concerned with raising certain questions about school anxiety and endeavoring to present a point of view consistent with our findings. There are three reasons for doing this. First, the results of this project are complex, and it is therefore difficult to see their relationship to crucial questions about anxiety without a specific effort to deal with the findings at this level. And second, at this stage in our research on school anxiety it is as important to know what we have not accomplished as it is to know what we did accomplish. An lastly, the tendency to weight individual, single findings in the direction of one's preconceptions often leads to a somewhat narrow and restrictive consideration of the implications of a study, unless this is balanced by a broader perspective.

School Anxiety and Neurotic Anxiety

It will be remembered that school anxiety was considered to be related to external dangers which have a locus in school situations, and in this way school anxiety was differentiated from neurotic anxiety. As some would say, we were differentiating objective anxiety from neurotic anxiety. To the degree that we were measuring school anxiety, therefore, it is reasonable to believe that the strength of school anxiety is related to the degree of external danger or threat perceived in the school situation. And, of course, the degree of threat perceived is supposed to be related to the needs of the individual which he considers to be important, and which he sees as being possibly fulfilled in school situations. This, then, is the general conceptual differentiation which we made. But it is one thing to say school anxiety is differentiable from other types of anxiety, and it is another to offer empirical evidence to this effect.

With regard to this question, it is possible to give only a qualified answer. The results presented in Chapters 2 and 3 do provide the basis for several observations relevant to the problem. In the first place, it was consistently found that school anxiety has substantial correlations with proneness toward neuroticism, which is a variable which has neurotic anxiety as its major component. In addition, throughout the project predictions derived from earlies studies using other anxiety measures were confirmed for school anxiety. To mention but one example, many developmental psychologists have found that the acquisition of appropriate sex-role behaviors is more crucial for boys than girls. Therefore, difficulties in this area of socialization are more likely to lead to anxiety for boys than girls. And, using a preliminary edition of our school anxiety scale, and a newly developed measure of M-F, we were able to obtain results which conformed to these expectations.

But there is more to the issue than this. Granted that school anxiety overlaps with other types of anxiety (and there was never any serious doubt about this), a more critical question concerns whether school anxiety contributes something in addition to anxiety-in-general. And to this question a definite affirmative answer can be given. School anxiety was consistently, and in predictable ways, more highly related to many of the variables studied in this project than was proneness toward neuroticism. The most outstanding examples of this were the relationships obtained between these two measures of anxiety and a variety of measures of intellectual and academic functioning in school. Although proneness toward neuroticism was regularly related to these same variables, the correlation coefficients were almost never as high as those for school anxiety. And, even in the area of neurotically oriented classroom behavior, the results were essentially the same, although it must be admitted that the relationships obtained for school anxiety were complex, and their significance was difficult to comprehend. Therefore, the delineation made between school anxiety and neurotic anxiety in Chapter 1 still stands, for, on the basis of our findings, it is not possible to further elaborate and expand upon that conceptual distinction.

School anxiety as a trait or state

Another dimension on which we can differentiate school anxiety is in terms of whether it is a trait or state. The empirical evidence distinguishing anxiety as a trait from anxiety as a state has been profusely produced by Cattell and his co-workers (Cattell, 1966). Anxiety as a trait is considered to be a relatively stable characteristic of the individual which is a part of his personality and which is not subject to a high degree of change over time. Anxiety as a state, on the other hand, is defined as a variable that covaries over occasions of measurement, i. e., it fluctuates over time to a considerable degree more than anxiety as a trait. This is a crucial distinction for this research project because one of the project's major objectives was to endeavor to discover whether school anxiety is systematically related to in-school experience. It raises important questions, too, about those children who showed marked changes in school anxiety over the period of a school year.

To take these questions one at a time, it was shown that school anxiety had a high degree of stability across the school year, since this stability coefficient was of the order of .60-.70. It is possible, of course, that the stability of anxiety across the school year is simply a reflection of the lack of significant changes in the in-school and out-of-school conditions of children. And this point of view also can be taken with regard to relationships between school anxiety and early school experiences; for the fact that we could predict school anxiety so well from first grade intellectual and academic information may simply mean that children's experiences in school don't change much from first grade on in terms of basic, psychologically important dimensions. There is also the possibility that school conditions do change over time, but that the changes are such as to leave the rank order of the children largely undisturbed.

To untangle some of these questions, we identified children whose school anxiety remained stable for specific periods of time, and children whose school anxiety shifted upward or downward during these same periods of time. These subgroups were extensively studied in a series of analyses in terms of all the information we had on them. But, although there were many significant results in a statistical sense, it was very difficult to discern an overall psychologically meaningful pattern in them. In other words, although it is obvious from a review of the massive tables in Chapter 3 that a great many significant results were obtained in association with stability and instability in school anxiety, an underlying conceptual framework for integrating these findings eluded the investigations. And, so, while we would tentatively conclude that school anxiety is best considered as a trait variable, we offer little definitive and conclusive evidence in behalf of this view.

School Anxiety and Defensiveness

Considerable attention has been given to the role of defenses against experiencing anxiety, for, it is well established, at least at the conceptual level, that the amount of anxiety experienced is related to the adequacy of the individual's defenses. And, on the basis of a review of the literature, the relationship between anxiety and styles of coping with anxiety appears to be one of the crucial aspects of needed anxiety research.

In this research project we took our cue from the literature and gave considerable emphasis to defensiveness. And we can report that there were significant and systematic changes in measures of defensiveness over time, and that these changes in defensiveness are closely and intimately linked to changes in school anxiety. Thus, there evidently is an interplay between what is involved, psychologically speaking, in school anxiety, and what is involved in defensiveness as we measured it. But what? Correlations between defensiveness, especially what we referred to as the avoidance style of defensiveness, and school anxiety were among the most consistent relationships that we obtained. Yet the correlates of defensiveness were not the same as the correlates of school anxiety. For example, as previously noted, school anxiety was strongly related to measures of intellectual and academic functioning; but defensiveness, except in some isolated cases, was not. At the same time, there were a number of instances where our defensiveness scales did correlate with other variables studied, including variables which were not possibly confounded by being derived from the same source - namely, the child. One question, then, is: What was our school anxiety scale measuring that our defensiveness scales also were measuring? And, to put the question into its other context: What were our defensiveness scales measuring which our anxiety scale was not? Using a common source of information, namely, self reports from the children, could explain the relationship between school anxiety and defensiveness, but it could not account for the relationships obtained for variables derived from independent sources of information. It would seem to be necessary, therefore, to regard our school anxiety scale as something more than a measure of anxiety, and to regard our measures of defensiveness as something more than measures of test-taking attitudes.

Type of School Anxious Children

Still another problem which we attempted to deal with at a conceptual and analytic level is the problem of whether there are types of school anxious children. If we can generalize from the research of Sarason and other investigators, it appears that many school anxious children might be described as dependent, inhibited, shy, and conforming. However, there ought to be, also, a significant number of school anxious children who behave in aggressive, hostile, ways. One might then suppose that this second type of school anxious child is likely to result from a failure to achieve a certain integration of behavior within school settings which is satisfactory to the child; with the consequence that he has given up these primary, more basic styles of reacting to anxiety, and has resorted to an aggressive form of reaction and adaption to school. We did not, however, obtain the kind of evidence that could be used to analyze such a sequence of events. We did find, however, that more of our school anxious children were described by the first set of characteristics, i. e., shyness, conforming, and so on, than by the second. Whether classroom conditions are partly responsible for these different types of behavioral correlates of school anxiety we are unable to say for sure. We did make an exploratory study of this aspect of the problem (which, however, was not reported) and found marked variations from class to class, and from one year to the next when children changed classes. But due to the smallness of the samples, formal analysis of the data appeared to be inadvisable. In closing this discussion, we agree with Sarason (1966) that much systematic research needs to be done in this area.

School Anxiety and School Motivation

Another area of considerable interest in this project was the relationship between school anxiety and school motivation. As we have previously noted in other contexts, it is the contention of many theorists that anxiety arises when there is a threat to an important need or motive for which the individual anticipates satisfaction, but at the same time sees this potential satisfaction threatened by uncertain circumstances, i. e., there is a substantial element of doubt about what is going to happen. Thus, it would appear that school anxiety should be a function of the strength of school motivation, since the stronger school motivation is the more difficult it is likely to be to satisfy it. Other theorists, notably Atkinson and his co-workers (Atkinson and Feather, 1966),

would tend to disagree with this line of reasoning (not necessarily as it is applied to school anxiety and school motivation, but as regards test anxiety and achievement motivation) and would argue that measures of motivation and anxiety should generally be uncorrelated. Our results are certainly no test of the alternatives implicit in these conceptions, but we did find that school anxiety and school motivation interacted in intriquing and provocative ways, as a review of the relevant data in Chapter 3 reveals. For one thing, it appears that school anxiety "acts" in a positive fashion for some types of children in much the same way that school motivation more typically does. In effect, it might be called a moderator variable in regard to school motivation, although the dynamics of this relationship were not deciphered very well in our analysis. In general, of course, school motivation was the stronger of the two influences operating in the realm of school intellectual, academic, and social behavior.

School Anxiety and Sex and Socio-cultural differences

All of the ideas which we have developed up to now are intimately related to two factors which characterize children in school, and these are their sex and socio-cultural status. There is a great deal of evidence gathered from a number of different sources (See Ruebush, 1963, for particulars), and with several different anxiety questionnaires and other instruments measuring anxiety, which indicates that one cannot generalize equally well from information about anxiety to the behavior of boys and girls. And our results are no exception, for we found a great many differences between boys and girls in relationships between school anxiety and our other variables. It is particularly noteworthy that these relationships were frequently stronger for girls than boys, which is contrary to much of the research literature in which test anxiety was studied. But, in view of the added social emphasis in our school anxiety scale, in contrast to the academic emphasis of the TASC, this is not surprising.

A more significant contribution was made, however, by our analyses of school anxiety among Non-Anglo children. There have been only a few anxiety studies in which Negro and Mexican-American children were included in substantial numbers as subjects. It was deliberate intent on our part, therefore, to give a great deal of attention to these types of children. And our efforts paid handsome dividends, for some of our most significant findings were those involving comparisons of Anglo and Non-Anglo children. In particular, we obtained convincing evidence that Negro and Mexican-American children are more anxious in school, although we were much less successful in showing whether or not school conditions contributed materially to this state of affairs. One of our tentative findings, however, was that Negro and Mexican-American children are not penalized in situations when incidental learning, i. e., learning which does not depend on specific instruction, occurs. We found, also, that the correlates of school anxiety were not the same for Non-Anglo children as they were for Anglo children. Our generalizations are limited, however, by the apparently significant differences in the school environments of Anglo and Non-Anglo children, since we cannot be sure that some of the differences we obtained were not products of these circumstances. For example, from our analyses of relationships of peer acceptance and peer rejection to other variables, it appears that elementary schools in different socio-cultural neighborhoods vary in their status systems, i. e., in terms of what it takes to be highly accepted and influential, or rejected and ignored, in one's peer group. In addition, although Non-Anglo children were higher on many of the classroom behavior variables, these variables were less frequently related to school anxiety and school motivation for Non-Anglo children than for Anglo children. But, as before, it is difficult to put these findings into a conceptual framework without more knowledge of the socio-cultural milieu of the schools.

Antecedents of School Anxiety

We employed several strategies in searching for evidence of the operation of cause-and-effect in regard to school anxiety, including the examination of relationships between school anxiety and a number of behavioral, academic, and intellectual variables over time, and the determination of what happened to school anxiety under in-school and out-of-school influences. But only circumstantial and spotty evidence was obtained which seemed to be in accord with the requirements of a cause-and-effect sequence, and it was generally not possible to unambiguously interpret these results within a cause-and-effect framework. Of this most ambitious of our aims, therefore, it would have to be said that we were only marginally successful, for few of our substantive findings could conclusively be identified as antecedents or consequences of school anxiety. At a methodological level, however, we demonstrated the usefulness of the in-school and out-of-school paradigm, and revealed some of the uncertainties and unresolved problems involved in the application of cross-lagged correlational designs to the study of cause-and-effect relationships.

REFERENCES

1. Adams, R. L. & Phillips, B. N. Anxiety, Birth Order, and Sociometric Choices Among Elementary School Children. Paper read at SWPA Meeting, April, 1966.

2. Atkinson, J. W. The mainspring of achievement oriented activities. In J. D. Krumbaltz (Ed.), Learning and Educational Process. Rand McNally, 1965, Pp. 25-66.

3. Atkinson, J. W., Bastian, J. R., Earl, R. W., & Litwin, G. H. The Achievement motive, goal setting, and probability preferences. J. abnorm. soc. Psychol., 1960, 60, 27-36.

4. Atkinson, J. W. & Feather, N. T. Review and appraisal. In J. W. Atkinson & N. T. Feather (Ed.), A Theory of Achievement Motivation. New York: Wiley, 1966. Pp. 327-370.

5. Atkinson, J. W. & Litwin, G. H. Achievement motive and test anxiety conceived as motive to approach success and motive to avoid failure J. abnorm. soc. Psychol., 1960, 60, 52-63.

6. Berlyne, D. E. Recent development in Piaget's work. Brit. J. Educ. Psychol., 1957, 27, 1-12.

7. Bereiter, Carl. Some persisting dilemmas in the measurement of change. In Chester W. Harris (Ed.), Problems in Measuring Change. University of Wisconsin Press, 1963. Pp. 3-20.

8. Blanchard, Phyllis. Psychoanalytic contributions to the problem of reading diabilities. In Anne Fread et. al. (Ed.), Psychoanalytic Study of the Child. 1946. Pp. 163-187.

9. Bloom, B., Davis, A., & Hess, R. Compensatory Education for Cultural Deprivation. New York: Holt, Rinehart, and Winston, 1965.

10. Bruner, J. W. The growth of the mind. Amer. Psychologist, 1965, 20, 1007-1017.

11. Byrne, D. The repression sensitization scale: rationale, reliability and validity. J. Pers., 1961, 29, 334-349.

12. Byrne, D., Bany, J., & Nelson, D. Relation of the revised repression-sensitization scale to measures of self-discipline. Psychol. Rep., 1963, 13, 323-334.

13. Campbell, D. T. From description to experimentation: Interpreting trends as quasi-experiments. In Chester W. Harris (Ed.), Problems in Measuring Change. The University of Wisconsin Press, 1963.

14. Campbell, D. T. & Stanley, J. C. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), Handbook of Research on Teaching. Chicago: Rand McNally, 1963, 171-246.

15. Castaneda, A., Palermo, D. S., & McCandless, B. R. Complex learning and performance as a function of anxiety in children and task difficulty. Child Develpm. 1956, 27, 327-332.

16. Cattell, R. B. Anxiety and motivation in theory and crutial experiments. In C. D. Spielberger (Ed.), Anxiety and Behavior. Academic Press, 1966. Pp. 23-62.

17. Cattell, R. & Scheier, I. The Meaning and Measurement of Neuroticism and Anxiety. New York: Ronald Press Company, 1961.

18. Coleman, J. S. The Adolescent Society. New York: Free Press of Glencoe, 1961.

19. Cooley, W. W. & Lohnes, P. R. Multivariate Procedures for the Behavioral Sciences. New York: Wiley, 1962.

20. Crandall, V. J. Achievement. In H. W. Stevenson, J. Kagon, & C. Spiken (Eds.), Child Psychology 62nd N.S.S.E. Yearb., 1963, 416-459.

21. Crandall, Virginia, Candall, V., & Katorsky, W. A children's social desirability questionnaire. J. consult. Psychol., 1965, 29, 27-36.

22. Crowne, D. P. & Marlowe, D. The Approval Motive; Studies In Evaluative Dependence. New York: Wiley, 1964.

23. Davidson, K. S. Interviews of parents of high-anxious and low-anxious children. Child Develpm., 1959, 30, 341-351.

24. Davidson, K. S. & Sarason, S. B. Test anxiety and classroom observations. Child Develpm., 1961, 32, 199-210.

25. Dunn, J. A. Factor structure of the test anxiety scale for children. J. consult. Psychol., 1964, 28, 92.

26. Dunn, J. A. Stability of the factor structure of the test anxiety scale for children across age and sex groups. J. consult. Psychol., 1965, 29, 187.

27. Edwards, A. L. Experimental Design in Psychological Research. New York: Holt, Rinehart, and Winston, 1964.

28. Freud, S. An Outline of Psychoanalysis. New York: Norton, 1949.

29. Freud, S. The Problem of Anxiety. New York: Psychoanalytic Quarterly Press & Norton, 1936.

30. Goldstein, M. J., Jones, R. B., Clemens, T. L., Flagg, G. W., & Alexander, F. G. Coping style as a factor in psychophysiological response to attention-arousing film. J. Pers. & J. soc. Psychol. 1965, 1, 290-302.

31. Gotts, E. E. & Phillips, B. N. The Relation between Psychometric Measures of Anxiety and M-F. Paper read at SWPA Meeting, 1966.

32. Guilford, J. P. Fundamental Statistics in Psychology and Education. New York: McGraw-Hill, 1956.

33. Haggard, E. Social status and intelligence. Genet. Psychol. Monogr., 1954, No. 49, 141-186.

34. Horn, J. L. A note on the estimation of factor scores. Educ. psychol. Measmt., 1964, 24, 525-527.

35. Horn, J. L. Second-Order factors in questionnaire data. Educ. psychol. Measmt., 1963, 23, 117-134.

36. Howard, K. I. Differentiation of individuals as a function of of repeated testing. Educ. psychol. Measmt., 1964, 24, 875-894.

37. Howard, K. I. & Diesenhaus, H. 16 PF Item Response patterns as a function of repeated testing. Educ. psychol. Measmt., 1965, 25, 365-379.

38. Johnson, Mirian M. Sex role learning in the nuclear family. Child Develpm., 1963, 34, 319-333.

39. Kagan J. & Moss, H. A. Birth to Maturity; a study in psychological development. New York: Wiley, 1962.

40. Katz, I. Review of evidence relating to effects of desegregation on the intellectual performance of Negroes. Amer. Psychologist, 1964, 19, 381-399.

41. Kissel, S. Stress-reducing properties of social stimuli. J. pers. soc. Psychol., 1965, 2, 378-384.

42. Klein, E. Psychoanalytic aspects of school problems. In Anne Fread, et. al. (Eds.), Psychoanalytic Study of the Child 1949, 369-390.

43. Lazarus, R. A laboratory approach to the dynamics of psychological stress. Amer. Psychologist, 1964, 19, 400-411.

44. Lighthall, F. Defensive and non-defensive changes in children's responses to personality questionnaires. Child Develpm., 1963, 34, 455-470.

45. Lindquist, E. T. Design and Analysis of Experiments in Psychology and Education. New York: Houghton Mifflin, 1953.

46. McCandless, B. R. Children and Adolescents: behavior and development. New York: Holt, Rinehart, and Winston, 1961.

47. McClelland, I. C. Personality. New York: Sloan, 1951.

48. Meehl, P. E. & Hathaway, S. R. The K factor as a suppressor variable in the MMPI. J. appl. Psychol., 1946, 30, 525-564.

49. Miller, D. R. & Swanson, G. R. Inner Conflict and Defence. New York: Henry Holt, 1960.

50. Olkin, I. E. Estimation and Testing of Hypotheses for Correlation Models, Technical Report No. 19, Department of Statistics, Stanford University, Stanford, California, 1965.

51. Paivio, A., Baldwin, A., & Berger, A. Measurement of children's sensitivity to audiences. Child Develpm., 1961, 32, 721-730.

52. Pearson, H. J. P. A survey of learning difficulties in children. In Eissler et. al. (Eds.), The Psychoanalytic Study of the Child, 1952, 322-386.

53. Phillips, B. Conflict theory and sex differences on the CMAS. Amer. educ. Res. J., 1966, 3, 19-25.

54. Phillips, B. N. Defensiveness as a factor in sex differences in anxiety. J. consult. Psychol., 1966a, 30, 167-169.

55. Phillips, B. Sex, social class, and anxiety as sources of variation in school achievement. J. educ. Psychol., 1962, 53, 316-322.

56. Phillips, B. N. & DeVault, M. V. Relation of positive and negative sociometric valuation to social and personal adjustment of school children. J. appl. Psychol., 1955, 39, 409-412.

57. Phillips, B., Hindsman, E., & Jennings, E. Influence of intelligence on anxiety and perceptions of self and others. Child Develpm., 1960, 31, 41-46.

58. Phillips, B., Hindsman, E., & McGuire, C. Factors associated with anxiety and their relation to the school achievement of adolescents. Psychol. Repts., 1960, 7, 365-372.

59. Porter, R. B. & Cattell, R. B. The Children's Personality Questionnaire. Champaign, Illinois: Institute for Personality and Ability Testing, 1963.

60. Rubel, A. J. Across the tracks - Mexican Americans in a Texas City. Austin: University of Texas Press, 1966.

61. Ruebush, B. K. Anxiety. In H. W. Steoenson, J. Hagan, & C. Spiker (Eds.), Child Psychology 62nd N.S.S.E. Yearb., 1963, 460-516.

62. Ruebush, B. Interferring and facilitating effects of test anxiety. J. abnorm. soc. Psychol., 1960, 60, 205-212.

63. Riesman, D. The Lonely Crowd. New Haven: Yale University Press, 1950.

64. Riessman, F. The Culturally Deprived Child. New York: Harpers Row, 1963.

65. Sarason, S. B., Davidson, K. S., Lighthall, F. F., Waite, R. R., & Ruebush, B. K. Anxiety in Elementary School Children. New York: John Wiley and Sons, 1960.

66. Sarason, S., Davidson, K., Lighthall, F., & Waite R. A test anxiety scale for children. Child Develpm., 1958, 29, 105-113.

67. Schachter, S. The Psychology of Affiliation. Palo Alto, California: Stanford University, 1959.

68. Sears, R., Maccoby, Eleanor, & Levin, H. Patterns of Child Rearing. Evanston: Row, Peterson, 1957.

69. Sexton, Patricia. Education and Income. New York: Viking, 1961.

70. Spence, K. W. A theory of emotionally based drive (D) and its relation to performance in simple learning situations. Amer. Psychologist, 1958, 13, 131-141.

71. Spence, K. W. & Spence, Janet T. The motivational components of manifest anxiety: Drive and drive stimuli. In C. D. Spielberger (Ed.), Anxiety and Behavior. Academic Press, 1966. Pp. 291-326.

72. Stanford, D., Dember, W., & Stanford, L. A Children's form of the Alpert-Haber Achievement Anxiety Scale. Child Develpm., 1963, 34, 1027-1032.

73. Stouffer, G. A. & Owens, J. Behavioral problems of children as identified by today's teachers and compared with those reported by E. K. Wickman. J. educ. Res., 1955, 40, 321-331.

74. Sullivan, H. S. The Interpersonal Theory of Psychiatry. New York: Norton, 1953.

75. Sutton-Smith, B. & Rosenberg, B. G. Age changes in the effects of ordinal position on sex-role identification. J. genet. Psychol., 1965, 107, 61-74.

76. Taylor, Janet A. A personality scale of manifest anxiety. J. abnorm. soc. Psychol., 1953, 48, 285-290.

77. Veldman, D. J. Statistical program library for the CDC 1604 (Ed Stat) (3rd ed.) Austin, Texas: Personality Rearch Center, 1965.

78. Waite, R. R., Sarason, S. B., Lighthall, F. F., & Davidson, K. S. A Study of anxiety and learning in children. J. abnorm. soc. Pyschol., 1958, 57, 267-270.

79. Wallach, M. A. & Kogan, J. Modes of Thinking in Young Children · A Study of the Creativity Intelligence Distinction. New York: Holt, Rinehart & Winston, 1965.

80. Whiting, J. W. M. & Whiting, Beatrice B. Contributions of Anthropology to the methods of studying child rearing. In P. H. Mussen (Ed.), Handbook of Research Methods in Child Development. New York: Wiley, 1960. Pp. 918-944.

81. Wickman, E. K. Children's Behavior and Teacher Attitudes. New York: Commonwealth Fund, 1928.

82. Winterbottom, Marian R. The relation of need for achievement to learning experiences in independence and mastery. In J. W. Atkinson (Ed.), Motives in fantasy, action, and society. Princeton: Van Nostrand, 1958. Pp. 453-478.

83, Wylie, Ruth C. The Self Concept; A Critical survey of pertinent research literature. Lincoln: University Nebraska Press, 1961.

84. Zweibelson, I. Test anxiety and intelligence test performance. J. consult. Psychol., 1956, 20, 479-481.

85. Phillips, Beeman N. The "Individual" and the "Classroom Group" as frames of reference in determining teacher effectiveness. J. educ. Res., 1964, 58, 128-131.

CSG

APPENDIX A

I'm going to ask you some questions which are different from the kinds of questions you usually have in school. These questions are about how you think and feel, and so have no right or wrong answers. First we'll hand out the answer sheets, and then I'll tell you more about the questions. . . .

First I want you to print your names in the spaces at the top of the sheet. Let me show you how it's done. . . . (boxes are reproduced on the blackboard, tester prints his name, explaining as he goes). Now you print your name in the spaces on your answer sheet, putting your first name in the spaces on the left side, and your last name in the spaces on the right. . . . Below your name is a place to write in your school. . . . Then to the right of that are the letters "B" and "G". If you're a boy put a circle around the "B", and if you're a girl put a circle around the "G". . . . Then write in the name of your teacher, writing only her last name. . . .

As I said before, I'm going to ask you some questions. These questions are different from other school questions. There are no right or wrong answers, and your teacher and principal will not see the answers you give. I will read each question, and you are to listen to it, and then put an "X" in the box on your answer sheet that best shows how you think or feel about the question. Sometimes you will be able to show how you think or feel by answering the question "yes" or "no". Let me read a practice question to show you how this works. Suppose I read the question: Do you like to play football? For this question your answer sheet would look like this. . . (appropriate boxes are put on the blackboard). . . . So if you like to play footbal you would show this by putting an "X" in the box under the word "yes", and if you don't you would put the "X" in the box under the word "no". (illustrated on the blackboard). . . . For other questions I will ask, you will be able to show how you think or feel by deciding between two things. For example, suppose that I read this question: Which do you like better, watching television; or reading a book? . . . (appropriate words and boxes are put on the blackboard). . . . 'Now, if you like watching television better you would put your "X" in the box under the word "television", and if you like reading a book better you would put your "X" in the box under the word "book".

Now, I'm going to ask you questions about how you think and feel about school, and about a lot of other things. Remember, your answer depends on how you think and feel, and your teacher and principal will not see the answers you give. So, listen carefully to each question an answer it by deciding how you think and feel. If you don't understand a question, ask me about it.

Now let's start by everybody putting their finger on Number 1. Here is the first question. Number 1 . . . . (the first question is read) . . . . If you . . . (appropriate reference is made to the question content) . . . Put your "X" in the box under "yes", and if you . . . (appropriate reference is made to the question content) put your "X" in the box under "no". Now let's go to the next question. Number 2. . . (question is handled as in the preceding. And with all subsequent questions the number is given, and the question is read; but the additional remarks included for Numbers 1 and 2 are discontinued). . . .

CSQ

I'm going to ask you some questions which are different from the kinds of questions you usually have in school. These questions are about how you think and feel, and so have no right or wrong answers. First we'll hand out the answer sheets, and then I'll tell you more about the questions... . .

First I want you to print your names in the spaces at the top of the sheet. Let me show you how it's done. . . . (boxes are reproduced on the blackboard, tester prints his name, explaining as he goes). Now you print your name in the spaces on your answer sheet, putting your first name in the spaces on the left side, and your last name in the spaces on the right. . . . Below your name is a place to write in your school. . . . Then to the right of that are the letters "B" and "G". If you're a boy put a circle around the "B", and if you're a girl put a circle around the "G". . . . Then write in the name of your teacher, writing only her last name. . . .

As I said before, I'm going to ask you some questions. These questions are different from other school questions. There are no right or wrong answers, and your teacher and principal will not see the answers you give. I will read each question, and you are to listen to it, and then put an "X" in the box on your answer sheet that best shows how you think or feel about the question. Sometimes you will be able to show how you think or feel by answering the question "yes" or "no". Let me read a practice question to show you how this works. Suppose I read the question: Do you like to play football? For this question your answer sheet would look like this. . . (appropriate boxes are put on the blackboard). . . . So if you like to play footbal you would show this by putting an "X" in the box under the word "yes", and if you don't you would put the "X" in the box under the word "no". (illustrated on the blackboard). . . . For other questions I will ask, you will be able to show how you think or feel by deciding between two things. For example, suppose that I read this question: Which do you like better, watching television; or reading a book? . . . (appropriate words and boxes are put on the blackboard). . . . Now, if you like watching television better you would put your "X" in the box under the word "television", and if you like reading a book better you would put your "X" in the box under the word "book".

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Form I

D1. When you are worried about something, do you like to talk about it?

SM2. When you see other children having trouble doing an assignment do you wish you could go over and help them?

SA3. If you are sick and miss school, do you worry that you will fall behind in your schoolwork?

PTN4. Do you always think that mother's way of doing things is better; or do you sometimes think your own way is better?

SA5. Do you worry when the teacher says that she is going to ask you questions to find out how much you know?

SA6. Do you feel uncomfortable when eating in front of your classmates?

PTN7. Do you sometimes speak angrily to your parents; or is it wrong to do so?

SA8. Do you sometimes dream at night that you did poorly on a test you had in school that day?

PTN9. In dreams do animals chase you; or are dreams nice?

SA10. Do you worry a lot while you are taking a test?

PTN11. Can others do things better; or can you do most things well?

AT12. Is it hard for you to do as well as the teacher expects you to do in class?

PTN13. In a game on the playground, do you stand around; or run a lot?

SM14. Do you think that you learn more working with others than when working by yourself?

L15. Do you ever worry?

SA16. Do you sometimes dream at night that the teacher is angry because you do not know your lessons?

SM17. Do you always raise your hand in class when you know the answer?

PTN18. Would you like better to hear stories about bears; or have bears here now?

SM 19. Do you try hard to make all the children in class like you?

SA20. Do you often have the fear that other children might think you dumb?

SA21. Does playing softball and other games make you scared because you are afraid of getting hurt?

PTN22. When your friends argue, do you keep quiet till they finish; or join the argument?

PTN23. Are most children sometimes unkind; or are most children kind to you?

D24. Are you sorry for some of the things you have done?

D25. Do you like to play in the snow?

PTN26. Do loud noises scare you; or do you just laugh at them?

SA27. Do you usually feel nervous when speaking to the principal?

D28. Are there some people that you don't like?

L29. Are you ever unhappy?

SA30. Are you sometimes afraid of expressing yourself in class because you think you might make a foolish mistake?

SA31. When the teacher says that she is going to call upon some boys and girls in the class to do arithmetic problems, do you hope that she will call upon someone else and not on you?

AT32. Do you find it hard to keep up with the rest of the class?

SM33. Do you prefer doing school assignments by yourself rather than doing them with other children in class?

SM 34. Is it hard for you to wait for the teacher to call on you when you have a good idea?

PTN35. Do you think you do not smile much; or smile a great deal?

D36. Do you sometimes feel like hurting someone?

PTN37. Do new teachers frighten you; or do you usually like them?

SA38. Are you often worried that the teacher will scold or punish you?

SM39. Do you pay close attention to what the teacher says when she explains something?

SA40. When it is your turn to get up and recite in class, do you feel your heart pounding hard?

D41. Sometimes when you get mad, do you smash something?

SA42. When you are at home and you are thinking about your arithmetic lesson for the next day, do you become afraid that you will get the answers wrong when the teacher calls upon you?

SA43. When the teacher is teaching you about arithmetic, do you feel that other children in the class understand her better than you?

SM44. When you are working in a group do you usually volunteer for more work than anyone else in the group?

SM45. When you make something in class do you try to make sure that all the other children see it?

PTN46. In your group is someone else the leader; or are you the leader?

PTN47. Do people think that you make many mistakes; or few mistakes?

ST48. Have you been physically attacked by any children in class?

D49. Do you wish your teacher paid more attention to you?

ST50. Are you as good in games like kickball as other students in class?

ST51. Do your classmates often make fun of you for the way you play in school games?

ST52. Do you often feel that your classmates ever want to do what you want to do?

L53. Has anyone ever been able to scare you?

SM54. Would you be willing to give up some of your play time in order to run for an office in class?

ST55. Do other children in class seem to like you?

SA56. Do you worry about being promoted, that is, passing from the _____ grade to the ______ grade at the end of the year?

AT57. Do you often wish the teacher would slow down until you understand what she is saying better?

ST58. Does your mother bring cookies, help at class parties, and do other things like the mothers of the other children in class?

D59. Since you started school, have you ever felt like crying?

Form I

ST60. Are the clothes you wear to school as nice as those most of the children wear?

D61. Do you sometimes dream about things you don't like to talk about?

SA62. Do you worry a lot before you take a test?

SA63. Do you think you worry more about school than other children?

D64. When you get mad do you ever tell anyone else about it?

SA65. After you have taken a test do you worry about how well you did on the test?

SA66. If you did very poorly when the teacher called on you, would you probalby feel like crying even though you would try not to cry?

Form II

D1. Do you sometimes have arguments with your mother and father?

D2. When someone scolds you does it make you feel badly?

L3. Do you ever worry about knowing your lessons?

SM4. Do you try to be one of the best students in your class?

SA5.. When the teacher asks you to get up in front of the class and read aloud, are you afraid that you are going to make some bad mistakes?

SA6. Do your knees shake when you are asked to recite in class?

SA7. Do you feel sick when you see a fight between your classmates?

SA8. Do you dislike acting in plays because you are afraid that other children will laugh at you?

SA9. Do you find it difficult to ask the teacher for help?

SA10. Do you feel embarrassed when you are asked to sing in front of others?

SA11. Do you sometimes have a fear of fainting in class?

SA12. When you are home and you are thinking about your reading lesson for the next day, do you worry that you will do poorly on the lesson?

D13. When you hurt somebody's feelings, does it make you feel badly?

SA14. Do you sometimes shake all over when you are asked to recite in class?

SA15. Are you afraid of being disliked by other children in class?

SM16. When the teacher fails to notice and comment on your work does it make you unhappy?

SA17. When you are in bed at night, do you sometimes worry about how you are going to do in class the next day?

D18. Does it bother you if the teacher chooses someone else insteac of you to do something for her (or him)?

SM19. When the teacher gives an assignment do you get busy on it right away?

AT20. Does your teacher sometimes give you a lower grade than you think you deserve?

Form II

SM21. Is getting a paper back with a good mark on it the best thing that happens to you in school?

SM22. When someone misses school because of illness do you try to be the first one to help him catch up?

PTN23. Are your feelings easily hurt; or not easily hurt?

PTN24. Do you think you could do well at just a few things; or almost anything?

SM25. Do you hate to miss school because you don't like to get behind in your work?

SA26. Do you always feel uncomfortable when you do not know what is expected of you in class?

AT27. If you made a mistake while reciting would some children laugh at you?

SA28. Do you sometimes dream at night that you are in school and cannot answer the teacher's question?

AT29. Do you work hardest when you know that what you do will be compared with what other students in class do?

D30. Do you like to go on trips with your mother and father?

D31. When someone makes you mad, do you ever tell them about it?

PTN32. If people wanted you to do something you did not want to do would you get angry; or just go along?

SA33. Does your voice sometimes shake when you are asked to recite in class?

PTN34. Could you do better in your work; or are you doing as well as you should.

D35. Is it hard for you to tell someone you're scared?

ST36. Does the teacher in class seem to like you?

ST37. Are most of the children in class friendly to you?

AT38. Do you have a hard time keeping up with the other students in class?

PTN39. When mother calls you in the morning, do you find it hard to wake up; or do you just jump right up?

PTN40. Do your plans often not work; or do they work out well?

SM41. When children are upset and cry because they do not have their lesson do you feel sorry for them?

Form II

PTN42. Which story would you like better, how Indians make clothing; or one about killing Indians?

SM43. Do you get angry when you are working on something important in class and someone interrupts you?

PTN44. Would you rather read a book; or play ball?

SA45. If anything happens which tends to make you look foolish, do you tend to think about it for a long time afterwards?

SA46. Do you worry that you might forget your lines when you recite a poem in front of the class?

AT47. Do some of your friends think you are a sissy because you make good grades?

D48. Do you lose your temper sometimes?

PTN49. Would you rather collect stamps; or play football?

SA50. Do you dread choosing up sides to play games because you are usually one of the last ones chosen?

PTN51. If people push you in a bus, do you get mad; or just smile?

L52. Do you ever worry about something bad happening to someone you know?

SA53. When you are taking a hard test, do you forget some things you knew very well before you started taking the test?

SA54. Do you wish a lot of times that you didn't worry so much about tests?

PTN55. Would you rather be a tap dancer; or a soldier?

SA56. When you are taking a test, does the hand you write with shake a little?

SM57. If you are in a hurry to finish your lesson and are not sure how to spell a word do you usually stop and look it up in the dictionary?

L58. Have you ever been afraid of getting hurt?

ST59. Do you get along well with those children in class who are looked up to by the other children?

SM60. Do you generally do what your friends like to do even though sometimes you want to do something else?

SM61. Is it important to you that everybody in class like you?

Form II

PTN62. If a trick is played on you, do you get a little angry; or do you laugh?

AT63. Do the students who do poorly on the tests the teacher gives lose the approval of the teacher?

PTN64. When you are hurried do you just leave your clothes; or do you still put them away?

AT65. Do the children who are smart get privileges other children in class do not get?

L66. When you were younger, were you ever scared of anything?

Form III

SA1. When the teacher says that she is going to find out how much you have learned, do you get a funny feeling in your stomach?

D2. If you think someone doesn't like you, does it bother you?

PTN3. Would you rather listen to music; or ride a bicycle?

SM4. If you were elected to an office in class would you hurry home after school so you could tell your mother about it?

D5. Do you like to go to the beach in the summertime?

PTN6. When someone is slow does it bother you; or does it not bother you?

SM7. To get others to like you do you try to find nice things to say about them?

PTN8. In a play would you rather be a speed pilot; or a famous writer?

AT9. Do you get as much approval from the teacher in class as you would like to get?

D10. Are there some things you just don't like to talk about?

D11. When you've done something wrong, is it hard for you to say you're sorry?

PTN12. If someone has a new idea, do you wait a while to make sure; or do you say it is good?

SA13. Do you sometimes worry about being different from many of the children in your class?

SA14. Do you usually feel awkward meeting new students who have just come into the class?

PTN15. When you say, "I bet I'm right," are you, in the end, wrong most of the time; or right most of the time?

SA16. When the teacher says that she is going to find out how much you have learned, does your heart begin to beat faster?

D17. Are you sometimes afraid of getting into arguments?

PTN18. Would you rather draw pictures of birds; or hunt birds?

ST19. Do some children in class say things to hurt your feelings?

PTN20. If two children were fighting on the playground, would you go tell the teacher; or let them fight?

L21. Have you ever had a scary dream?

ST22. Does it seem like most of the children in class never pay any attention to you?

SA23. When the teacher says that she is going to give the class a test, do you get a nervous or funny feeling?

SM24. Before turning in school work do you always make a last minute check for mistakes?

SA25. Do you dislike reciting in class because you might make a mistake and others would laugh at you?

L26. Do you ever worry about what is going to happen?

AT27. Do you expect to do better school work in the future than you have in the past?

ST28. Do you get along well with the teacher in class?

D29. When one of your friends won't play with you, do you feel badly?

D30. Do you feel it's important to think about how you can get people to like you?

SM31. Would you like to represent your class in a contest between rooms even if it meant extra work for you?

AT32. Is it hard for you to have as good a report card as your parents expect you to have?

ST33. Do some children in class seem to get angry when you do better than they do?

SA34. Are you afraid other children will laugh at you when you show your work to them?

SA35. Are you frequently afraid you may make a fool of yourself?

SA36. Are you afraid of school tests?

SM37. When you have done well on something do you feel pleased with yourself even when no one else in class notices what you have done?

SM38. If a child is new in class and is having trouble making friends do you make a special effort to be friendly to him?

SA39. When the teacher says that she is going to give the class a test, do you become afraid that you will do poorly?

SA40. Do you worry a lot about your school work because you are afraid your parents might find out you are not doing as well as they expect you to do?

Form III

L41. Do you ever worry about what people think of you?

SA42. Do you feel nervous if the whole class watches you when you are making something?

SA43. Do you sometimes dream at night that other boys and girls in your class can do things you cannot do?

ST44. Do your classmates sometimes make fun of the way you look and talk?

PTN45. Would you rather talk with your teacher; or talk with a good friend?

SM46. Do you work with others every chance you get in class?

SA47. Do you feel nervous when others look at work you have done?

SM48. Do you waste time in class when you are supposed to be workin

SA49. When the teacher is teaching you about reading, do you feel that other children in the class understand her better than you?

SA50. While you are on your way to school, do you sometimes worry that the teacher may give the class a test?

SM51. Do you do extra work for the teacher whenever you have the opportunity?

L52. Do you ever worry that you won't be able to do something that you want to do?

SA53. Are you often worried that you might be sick in class?

SM54. Do you like for the teacher to call on you a lot?

SA55. While you are taking a test do you usually think you are doing poorly?

SM56. Do you have ideas that you sometimes just cannot wait to tell the whole class about?

PTN57. Would you rather work with books in a library; or be a General in the Army?

SA58. When the teacher asks you to write on the blackboard in front of the class, does the hand you write with sometimes shake a little.

AT59. Do you get as much approval from other children in class as you would like to get?

PTN60. Does your mother buy your toys; or do you buy your own?

D61. Do you feel cross and grouchy sometimes?

Form III

PTN62. In your school work do you often forget; or do you feel sure you can remember things?

D63. Do you feel terrible if you break something which belongs to somebody else?

PTN64. When a small thing upsets you, do you get so mad you want to throw things; or can you keep calm?

SA65. When you recite in class do you often wonder what others are thinking of you?

PTN66. Do they say you shout at people when you get excited; or do they think you are patient?

Form I

NAME

SCHOOL ____________________ B G DATE ____________________

TEACHER ____________________

1 yes ☐ no ☐	2 yes ☐ no ☐	3 yes ☐ no ☐
4 mother's ☐ own way ☐	5 yes ☐ no ☐	6 yes ☐ no ☐
7 speak angrily ☐ wrong ☐	8 yes ☐ no ☐	9 chase you ☐ nice ☐
10 yes ☐ no ☐	11 others do better ☐ do things well ☐	12 yes ☐ no ☐
13 stand around ☐ run a lot ☐	14 yes ☐ no ☐	15 yes ☐ no ☐
16 yes ☐ no ☐	17 yes ☐ no ☐	18 stories ☐ bears here ☐
19 yes ☐ no ☐	20 yes ☐ no ☐	21 yes ☐ no ☐
22 keep quiet ☐ join ☐	23 unkind ☐ kind ☐	24 yes ☐ no ☐
25 yes ☐ no ☐	26 scare ☐ laugh at them ☐	27 yes ☐ no ☐
28 yes ☐ no ☐	29 yes ☐ no ☐	30 yes ☐ no ☐
31 yes ☐ no ☐	32 yes ☐ no ☐	33 yes ☐ no ☐

Form I

NAME

SCHOOL ____________________ B G

DATE ____________________

TEACHER ____________________

	yes	no		do not smile	smile a great deal		yes	no
34	☐	☐	35	☐	☐	36	☐	☐
	frighten you	liked them		yes	no		yes	no
37	☐	☐	38	☐	☐	39	☐	☐
	yes	no		yes	no		yes	no
40	☐	☐	41	☐	☐	42	☐	☐
	yes	no		yes	no		yes	no
43	☐	☐	44	☐	☐	45	☐	☐
	someone else	you		make mistakes	few mistakes		yes	no
46	☐	☐	47	☐	☐	48	☐	☐
	yes	no		yes	no		yes	no
49	☐	☐	50	☐	☐	51	☐	☐
	yes	no		yes	no		yes	no
52	☐	☐	53	☐	☐	54	☐	☐
	yes	no		yes	no		yes	no
55	☐	☐	56	☐	☐	57	☐	☐
	yes	no		yes	no		yes	no
58	☐	☐	59	☐	☐	60	☐	☐
	yes	no		yes	no		yes	no
61	☐	☐	62	☐	☐	63	☐	☐
	yes	no		yes	no		yes	no
64	☐	☐	65	☐	☐	66	☐	☐

Form II

NAME

SCHOOL ____________________ B G

DATE ____________________

TEACHER ____________________

1 yes ☐ no ☐

2 yes ☐ no ☐

3 yes ☐ no ☐

4 yes ☐ no ☐

5 yes ☐ no ☐

6 yes ☐ no ☐

7 yes ☐ no ☐

8 yes ☐ no ☐

9 yes ☐ no ☐

10 yes ☐ no ☐

11 yes ☐ no ☐

12 yes ☐ no ☐

13 yes ☐ no ☐

14 yes ☐ no ☐

15 yes ☐ no ☐

16 yes ☐ no ☐

17 yes ☐ no ☐

18 yes ☐ no ☐

19 yes ☐ no ☐

20 yes ☐ no ☐

21 yes ☐ no ☐

22 yes ☐ no ☐

23 easily hurt ☐ not easily hurt ☐

24 a few things ☐ almost anything ☐

25 yes ☐ no ☐

26 yes ☐ no ☐

27 yes ☐ no ☐

28 yes ☐ no ☐

29 yes ☐ no ☐

30 yes ☐ no ☐

31 yes ☐ no ☐

32 get angry ☐ go along ☐

33 yes ☐ no ☐

Form II

NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐▨☐☐☐☐☐☐☐☐☐☐☐☐

SCHOOL______________________ B G DATE______________________

☐☐☐☐☐☐☐☐

TEACHER______________________

	do better	as well as should		yes	no		yes	no
34	☐	☐	35	☐	☐	36	☐	☐
	yes	no		yes	no		hard to wake up	jump right up
37	☐	☐	38	☐	☐	39	☐	☐
	not work	work out well		yes	no		make clothing	killing
40	☐	☐	41	☐	☐	42	☐	☐
	yes	no		read a book	play ball		yes	no
43	☐	☐	44	☐	☐	45	☐	☐
	yes	no		yes	no		yes	no
46	☐	☐	47	☐	☐	48	☐	☐
	stamps	football		yes	no		get mad	just smile
49	☐	☐	50	☐	☐	51	☐	☐
	yes	no		yes	no		yes	no
52	☐	☐	53	☐	☐	54	☐	☐
	tap dancer	soldier		yes	no		yes	no
55	☐	☐	56	☐	☐	57	☐	☐
	yes	no		yes	no		yes	no
58	☐	☐	59	☐	☐	60	☐	☐
	yes	no		get angry	laugh		yes	no
61	☐	☐	62	☐	☐	63	☐	☐
	leave them	put clothes away		yes	no		yes	no
64	☐	☐	65	☐	☐	66	☐	☐

Form III

NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

SCHOOL ____________________ B G

DATE ____________________
☐☐☐☐☐☐☐☐

TEACHER ____________________

1	yes ☐	no ☐	2	yes ☐	no ☐	3	music ☐	bicycle ☐
4	yes ☐	no ☐	5	yes ☐	no ☐	6	bother you ☐	not bother you ☐
7	yes ☐	no ☐	8	speed pilot ☐	writer ☐	9	yes ☐	no ☐
10	yes ☐	no ☐	11	yes ☐	no ☐	12	make sure ☐	say it is good ☐
13	yes ☐	no ☐	14	yes ☐	no ☐	15	wrong ☐	right ☐
16	yes ☐	no ☐	17	yes ☐	no ☐	18	draw pictures ☐	hunt ☐
19	yes ☐	no ☐	20	tell the teacher ☐	let them ☐	21	yes ☐	no ☐
22	yes ☐	no ☐	23	yes ☐	no ☐	24	yes ☐	no ☐
25	yes ☐	no ☐	26	yes ☐	no ☐	27	yes ☐	no ☐
28	yes ☐	no ☐	29	yes ☐	no ☐	30	yes ☐	no ☐
31	yes ☐	no ☐	32	yes ☐	no ☐	33	yes ☐	no ☐

NAME ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

SCHOOL ______________________ B G

DATE ______________________ ☐☐☐☐☐☐☐☐

TEACHER ______________________

34 yes ☐ no ☐

35 yes ☐ no ☐

36 yes ☐ no ☐

37 yes ☐ no ☐

38 yes ☐ no ☐

39 yes ☐ no ☐

40 yes ☐ no ☐

41 yes ☐ no ☐

42 yes ☐ no ☐

43 yes ☐ no ☐

44 yes ☐ no ☐

45 teacher ☐ good friend ☐

46 yes ☐ no ☐

47 yes ☐ no ☐

48 yes ☐ no ☐

49 yes ☐ no ☐

50 yes ☐ no ☐

51 yes ☐ no ☐

52 yes ☐ no ☐

53 yes ☐ no ☐

54 yes ☐ no ☐

55 yes ☐ no ☐

56 yes ☐ no ☐

57 work with books ☐ be a General ☐

58 yes ☐ no ☐

59 yes ☐ no ☐

60 mother ☐ buy own ☐

61 yes ☐ no ☐

62 forget ☐ can remember ☐

63 yes ☐ no ☐

64 throw things ☐ keep calm ☐

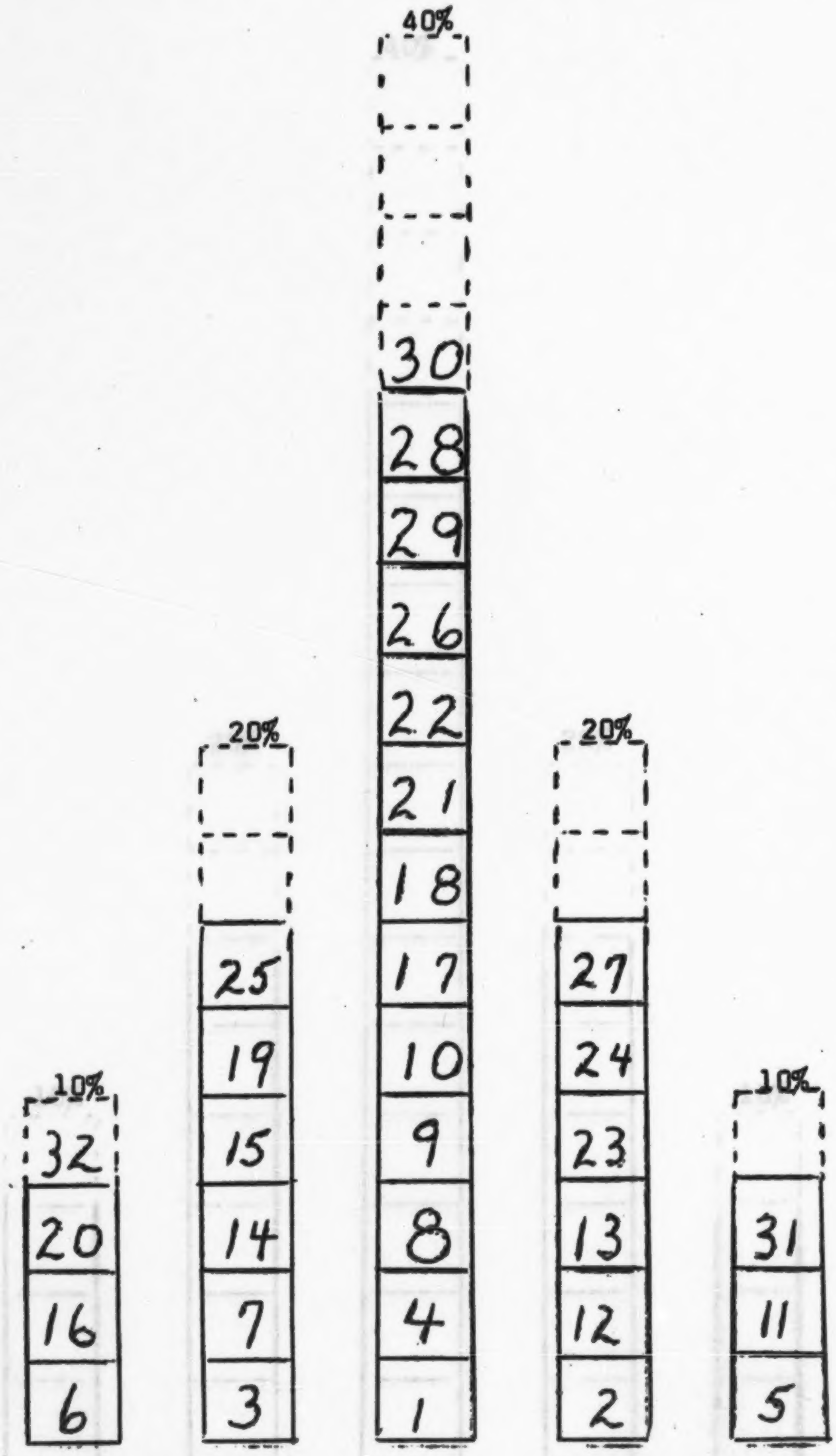
65 yes ☐ no ☐

66 shout at people ☐ are patient ☐

School__________________________ Grade_________________

Teacher__________________________ Date_________________

On the pages which follow you will be asked to indicate how your pupils compare with each other in different classroom behaviors. For each quality, sort the slips with the children's names into five groups, from those most like this quality, to those least like this quality, as indicated in the example of a class given on the next page. Notice that the middle group will have the most names in it, and the two extreme groups will have the fewest names in them. The extreme groups should have approximately 10% of the class each; the next two groups should have about 20% of the class in each one; and the middle group should have approximately 40%. After the pupils have been sorted into these five groups, record the numbers from the slips in the appropriate sets of boxes, putting one number to a box. The number of boxes provided with solid lines is appropriate for a TYPICAL CLASS OF 30 PUPILS; if there are more than 30 pupils (as will often be the case), or if the class is not typical, you may make use of the boxes with broken lines as well.

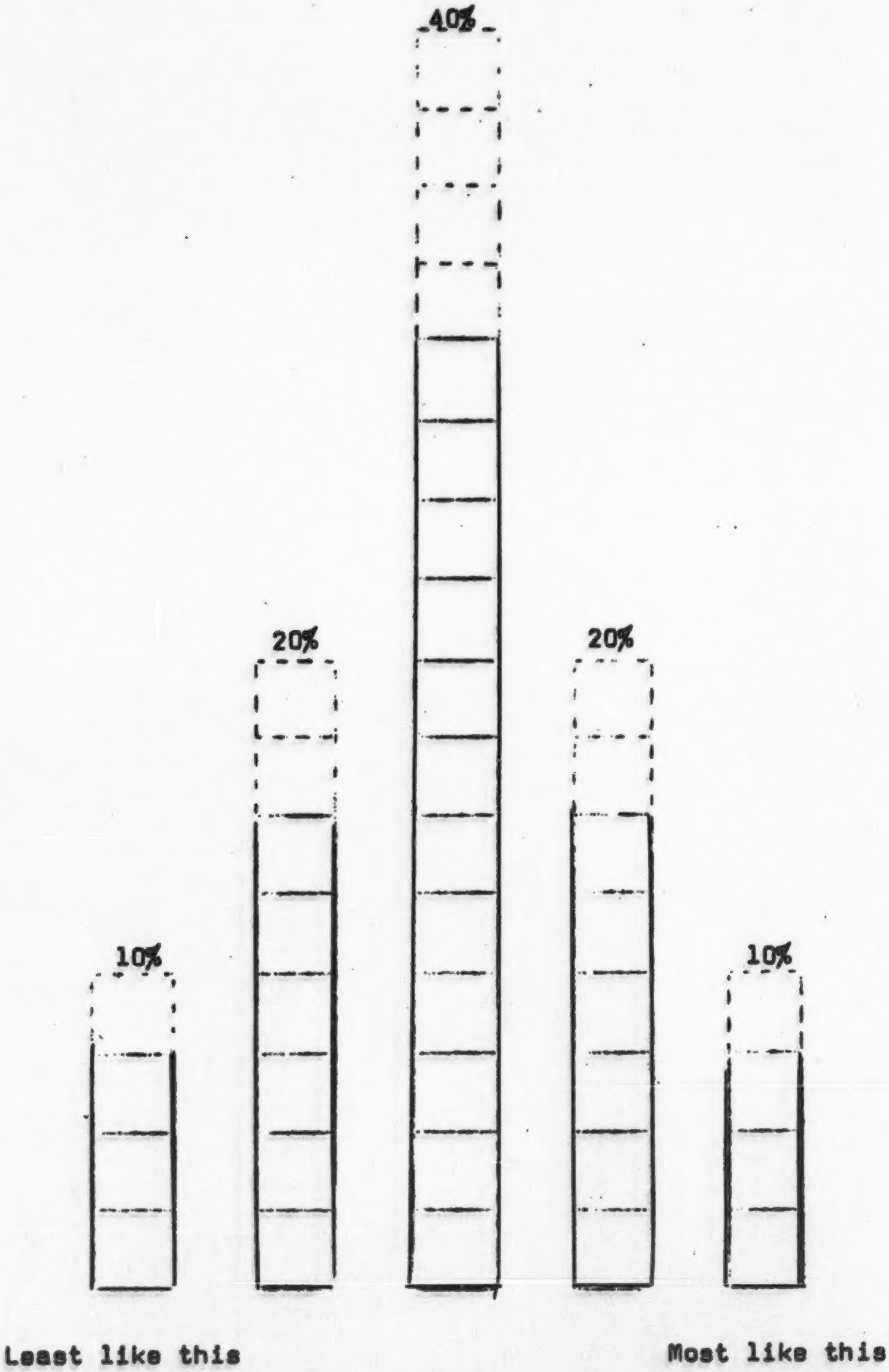


Least like this

Most like this

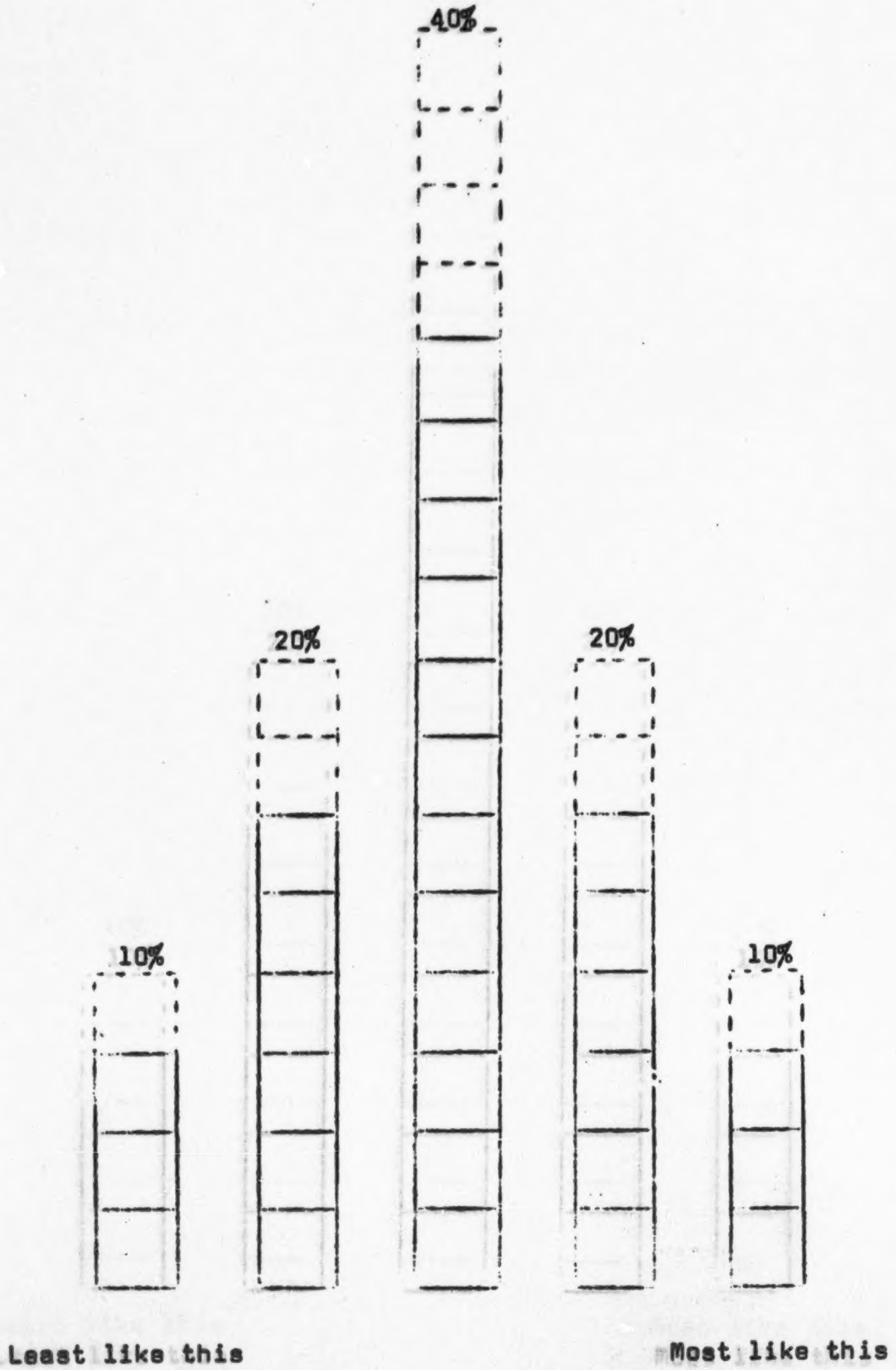
Quality on which children are compared:

STRIKINGLY ATTENTIVE TO TASKS



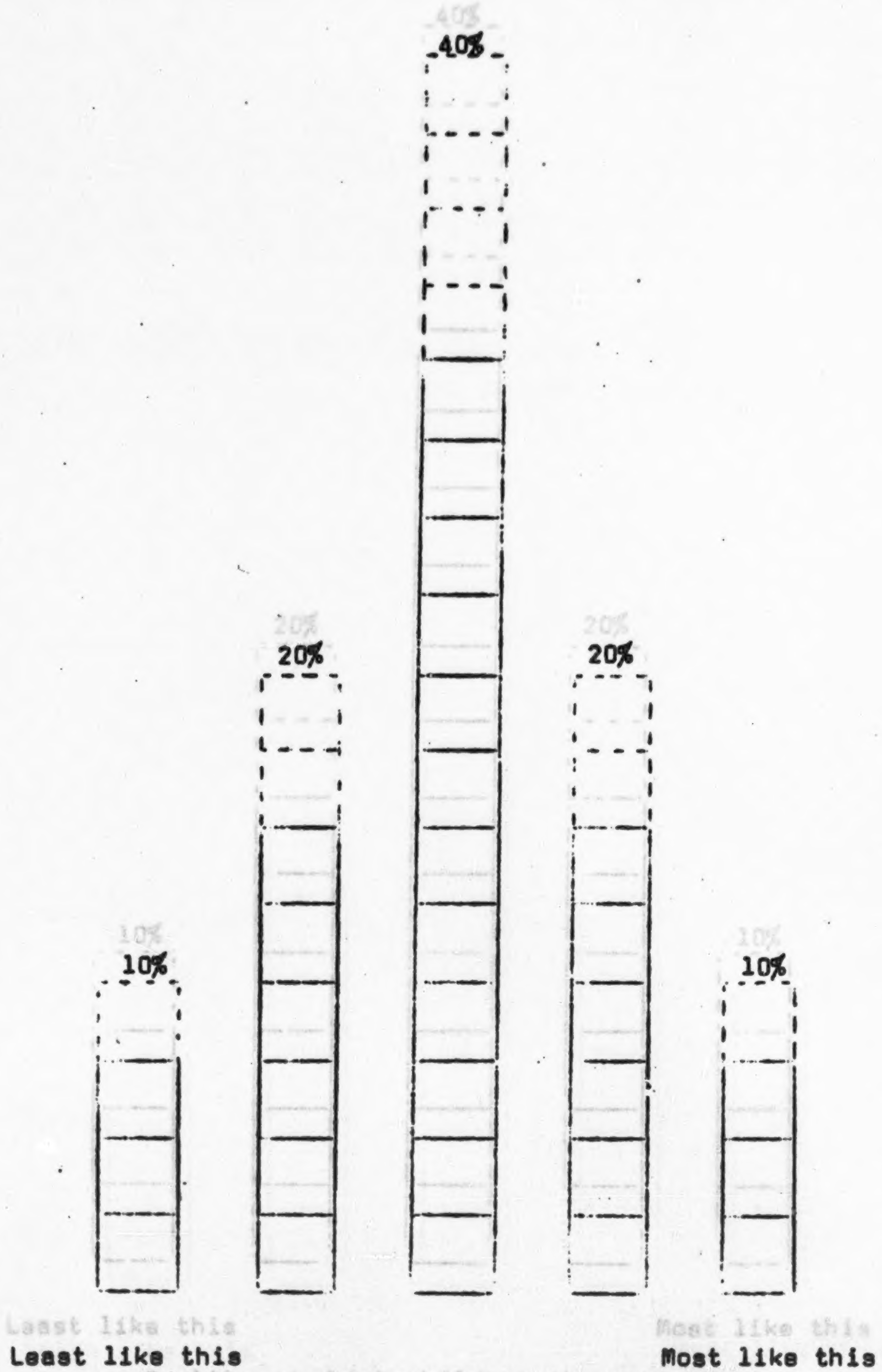
Quality on which children are compared:

SHOWS EVIDENCE OF STRONG PLEASURE IN GOOD WORK



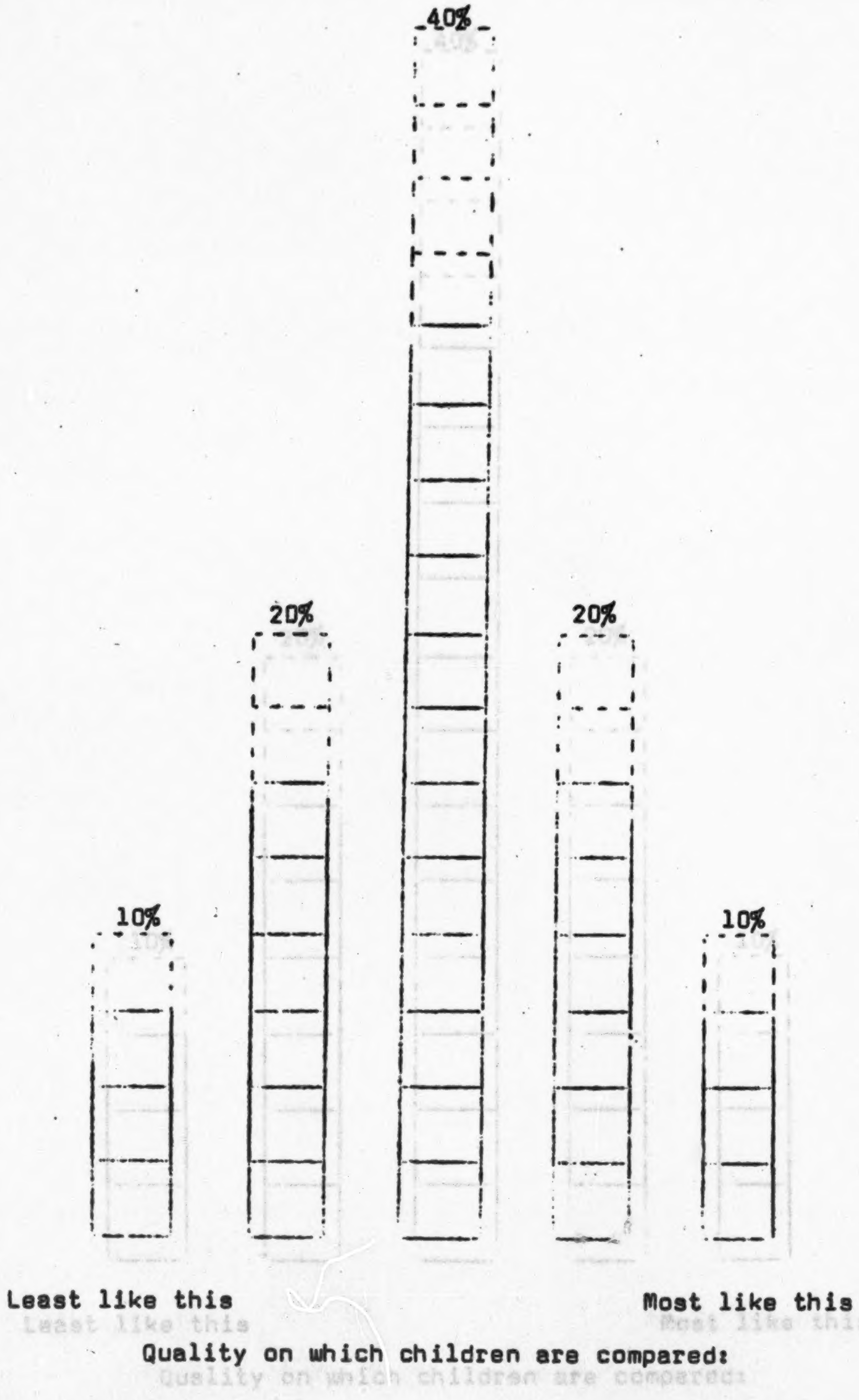
Quality on which children are compared:

ENJOYS WORKING WITH OTHERS AND PARTICIPATING ACTIVELY IN GROUPS



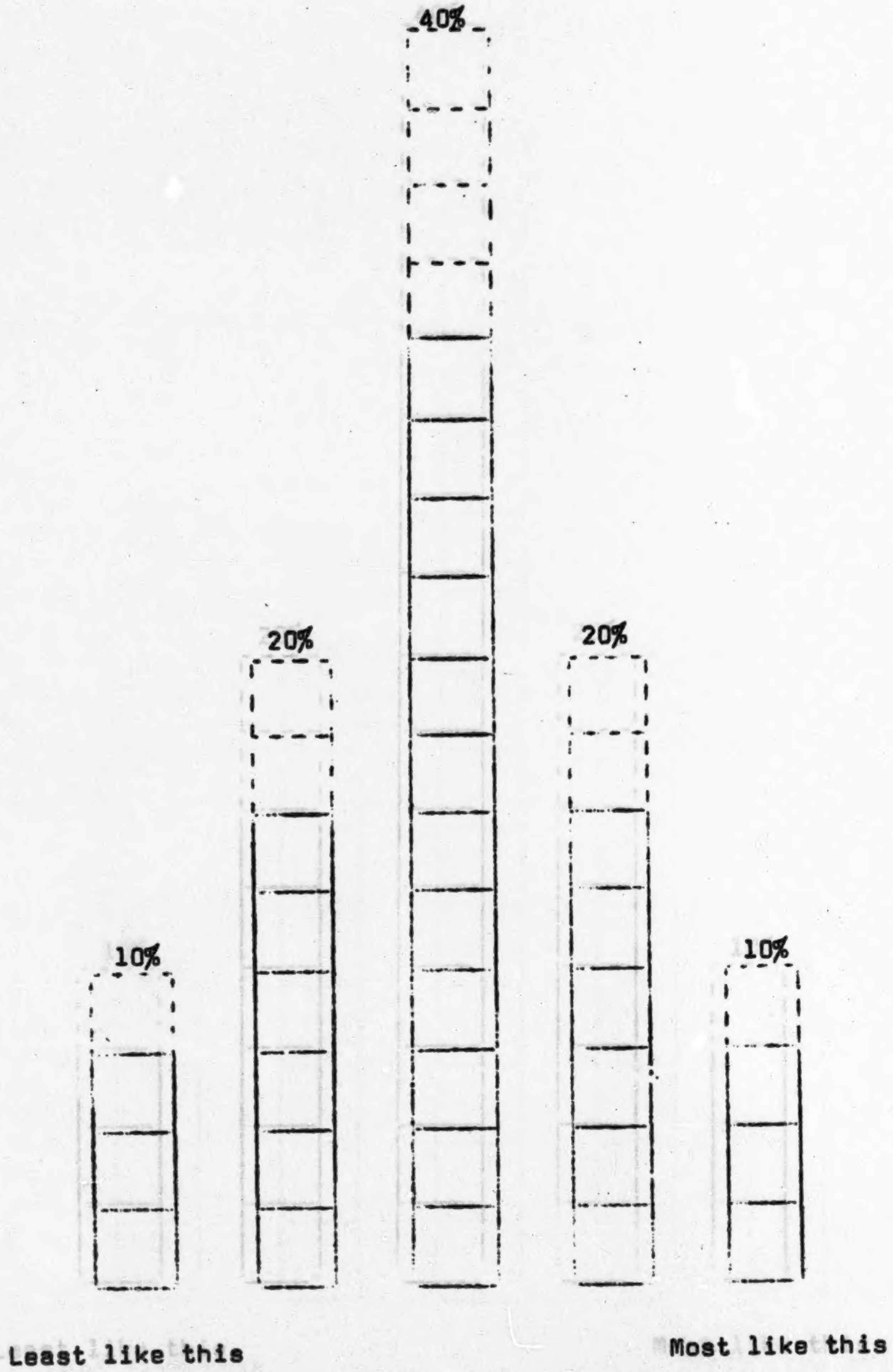
Quality on which children are compared:

CONCERNED WITH LESSONS AND CAREFUL ABOUT WORK



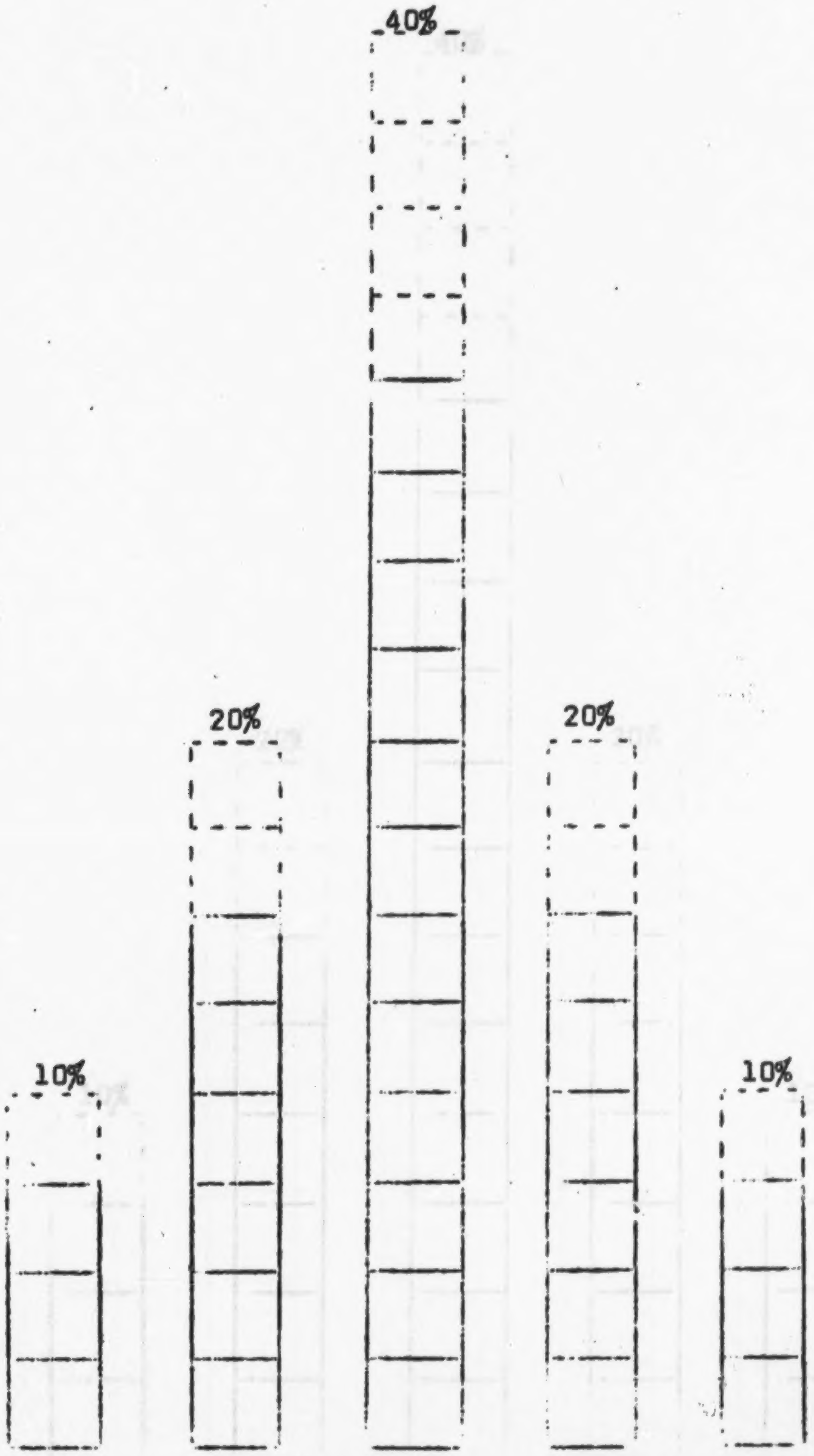
Quality on which children are compared:

SEEKS SOCIAL RECOGNITION AND LIKES OFFICES AND LEADERSHIP ROLES



Quality on which children are compared:

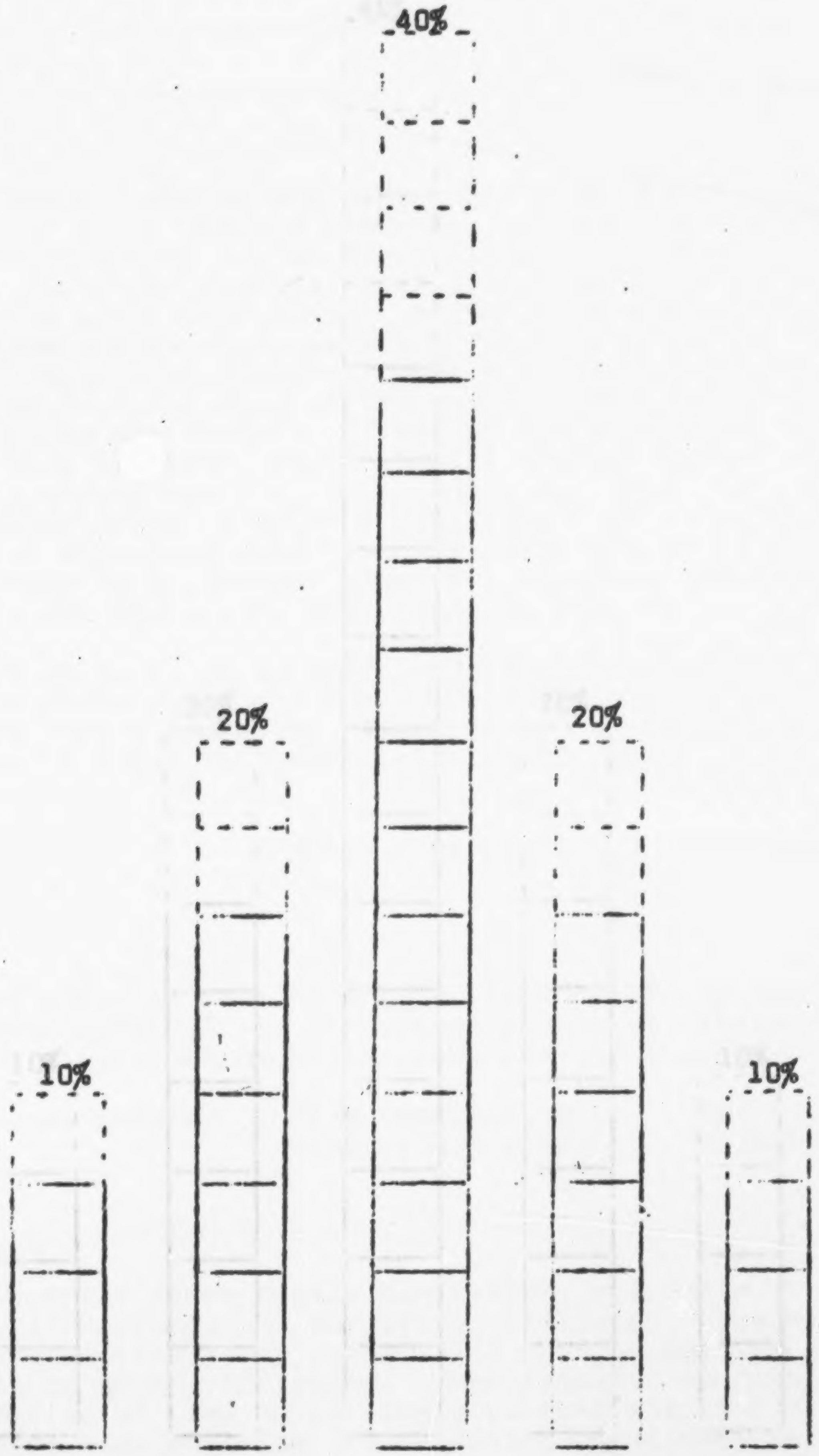
EAGER, ENERGETIC, AND FREQUENTLY VOLUNTEERS



Least like this Most like this

Quality on which children are compared:

FREQUENTLY HELPFUL AND SYMPATHETIC TO OTHERS WITH PROBLEMS

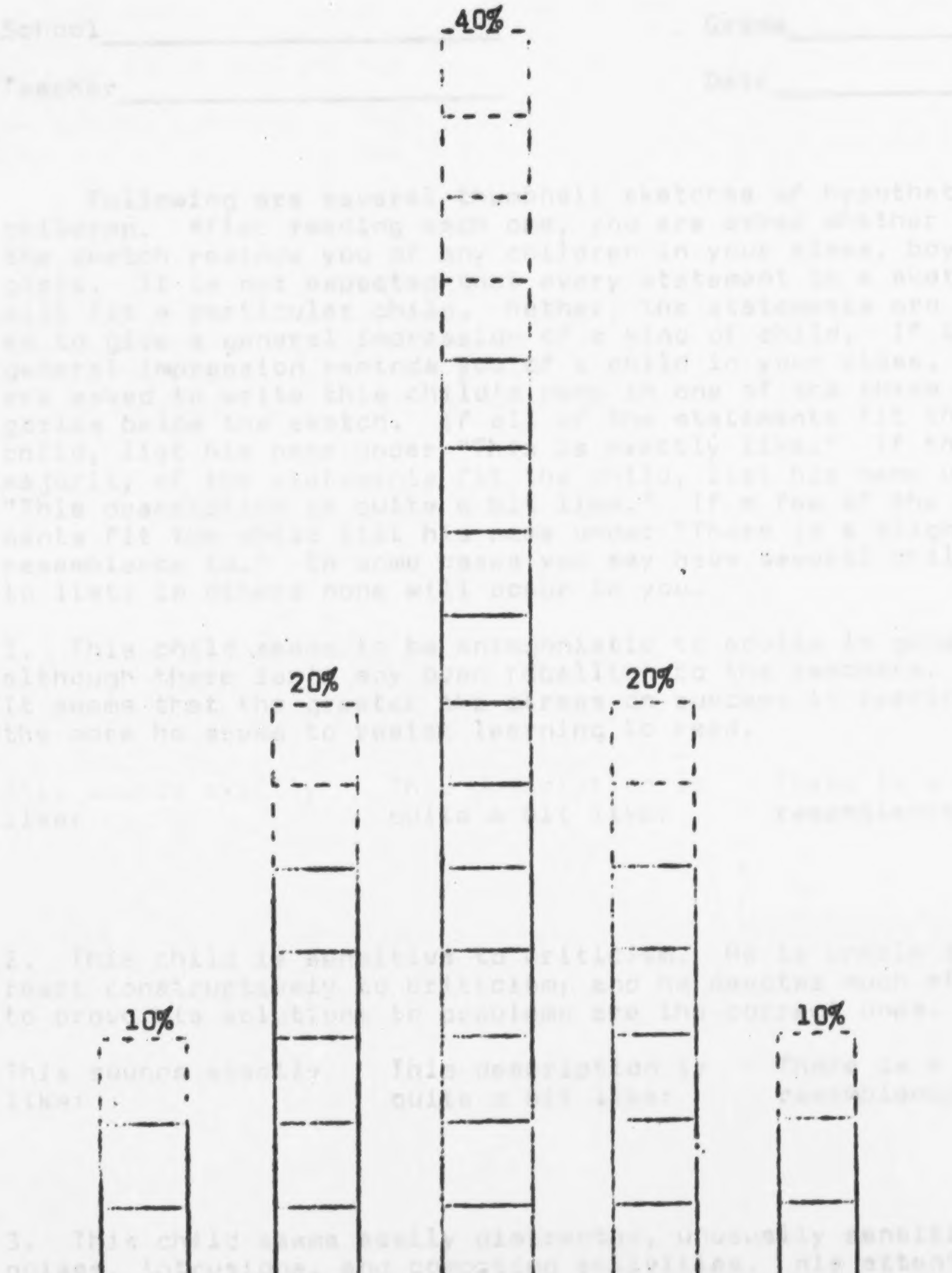


Least like this

Most like this

Quality on which children are compared:

STRIKINGLY ATTENTIVE TO TASKS


40%
20%
20%
10%
10%
Least like this
Most like this

Quality on which children are compared:

TRIES HARD TO MAKE FRIENDS AND TO BE ACCEPTED

School______________________ Grade______________

Teacher______________________ Date______________

Following are several thumbnail sketches of hypothetical children. After reading each one, you are asked whether the sketch reminds you of any children in your class, boys or girls. It is not expected that every statement in a sketch will fit a particular child. Rather, the statements are intended to give a general impression of a kind of child. If this general impression reminds you of a child in your class, you are asked to write this child's name in one of the three categories below the sketch. If all of the statements fit the child, list his name under "This is exactly like." If the majority of the statements fit the child, list his name under "This description is quite a bit like." If a few of the statements fit the child list his name under "There is a slight resemblance to." In some cases you may have several children to list; in others none will occur to you.

1. This child seems to be antagonistic to adults in general, although there isn't any open rebellion to the teachers. It seems that the greater the stress on success in reading, the more he seems to resist learning to read.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

2. This child is sensitive to criticism. He is unable to react constructively to criticism; and he devotes much effort to prove his solutions to problems are the correct ones.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

3. This child seems easily distracted, unusually sensitive to noises, intrusions, and competing activities. His attention span is unusually short, especially when engaged in a task of moderate or great difficulty. When required to "stay put" for a period of time he is likely to manifest some kind of compulsive body activity (foot-tapping, continual shifting in his seat, standing beside his seat, scratching, pencil-tapping, etc).

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

4. This child is seclusive. He hesitates to join informal groups in the classroom and on the playground; and he crosses the street, etc., to avoid meeting his teachers, adults, and other children.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

5. This child has a reputation for treating animals unkindly. At school he is known as something of a bully, and playground supervisors have learned to be on the alert so that he doesn't mistreat younger, smaller children. He is likely to laugh when he sees someone hurt himself, or when another child is scolded by the teacher.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

6. This child over-responds to flattery. He is easily led by those who praise him; and because he feels a great need to prove his adequacy, anyone who supports it gets a warm reception.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

7. This child is sometimes observed engaging in bizarre behavior; he is known to respond to a question or class discussion with strange statements that cause the other children to laugh, but which have little logical connection with the topic.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

8. This child has a spotty performance record, in that while achievement in most areas is average or better, achievement in one or more specific areas is unaccountably low. It almost seems that he "blanks out", or has a "mental block" for some things.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

9. This child has ideas of reference. He applies all criticism to himself; he thinks his teacher is always watching him; and he often overhears comments which he thinks are about him.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

10. This child seems to be of average or above average intelligence, but has had trouble learning to read, hence does less well on any test involving reading. There is a report that this child experienced some kind of unpleasant and painful, experience during the early efforts to learn to read, and may have developed a negative attitude toward reading.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

11. This child has a poor reaction to competition. He enters competitive activities only to win, avoids competition in many instances, and is not a good loser.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

12. This child tends to have strong reactions to school situations. He seems to derive great pleasure from humorous situations in the classroom, and may participate actively in some activities. However, his reaction to rebuke or correction may be equally strong, even violent. Possibly he needs acceptance and approval so desperately that apparent disapproval sparks a hopeless, frustrated rage.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

13. This child is derogatory of others. He frequently points up the faults of others, and minimizes his own shortcomings and inadequacies.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

14. This child generally seems sad. Even when he does laugh and seems to be having a good time, his mood quickly changes and he becomes serious. He gives the impression of being basically unhappy.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

15. This child has unrealistically high expectations for himself, more than could be expected from past performance or scores on aptitude tests. He responds to test scores and report card grades with remarks similar to "I can do better."

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

16. This child, despite above average intelligence, seems to have little curiosity about life. He understands what he hears and reads, and can explain what he has learned; however, there is little motivation to seek out information for himself. He tends to accept at face value what he is told in class. He shows little promise for independent study.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

17. This child generally does not get along very well with children his own age or in his own class. He usually plays with children who are younger and in lower grades, and the games he plays are those appropriate for younger children.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

18. This child is the kind whose behavior runs in cycles. For certain periods his behavior is relatively normal. Then follow several days when he seems to go out of his way to misbehave, or to try to push the teacher to the limit of tolerance, seemingly in an effort to gain attention, both the teacher's and the class'.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

19. There is a general fearfulness in this child. He is overly concerned about knowing what material will be covered on a test; he asks endless questions about details of after-school field trips. There is a marked apprehensiveness about anything in the near or remote future.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

20. This child is noticeably absentminded, and has been observed to forget not only distasteful responsibilities, but also pleasant activities. He is frequently in need of pencil or note-paper, lunch money, books left at home. His friends put up with him in spite of his habitual tardiness. He often is indecisive, unable to choose among several possibilities, can't decide which assignment to start first.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

21. This child is exceptionally sensitive to evaluation and criticism. His teachers have learned to treat this child very carefully to avoid tears, and to phrase criticisms of themes and classroom projects in terms of improving an already good product. He seems to need an abundance of support and approval.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

22. This child frequently comes to the teacher to tell news from home, relate incidents occurring during recess, ask superficial questions about schoolwork, tattle on other students. Apparently he enjoys thinking he has a special relationship with the teacher, and is more comfortable with the teacher than with the other pupils.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

23. This child gives the impression of always having his guard up, so that it's difficult to know how he feels and what he's thinking. He is unlikely to share secrets with anyone, especially an adult. He rarely expresses either pleasure or displeasure about what happens to him.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

24. This child is often observed day dreaming, especially when he should be engaged in some possibly disagreeable task, such as writing a theme, taking an examination, doing assignments. Reports from other teachers and from parents indicate this is typical of his behavior in other situations. Perhaps he even has been observed to have fantasies, in which he imagines he has human or animal playmates, or that he is someone else in another circumstance (adventurer, space traveler, star athlete, oriental ruler, etc).

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

25. This child seems to go out of his way to rationalize poor performance by such devices as stating, prior to a test, that he didn't have time to study; by saying afterwards that he had a headache during the test; by saying that spelling bees are silly, and deliberately missing the first word; etc.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

26. FOR BOYS ONLY
This boy is considered a sissy by many of the children. He tends to appear effeminate in his mannerisms and interests. On the playground he is inclined to avoid sports involving bodily contact, and is observed teasing or talking to the girls. In an argument he would rarely stoop to fighting even when severely provoked, preferring to talk his way out of it or venting his feelings through verbal aggression. He seems to consider school work a bore or excessively difficult, and seems to shrink from any situation involving competition.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

27. FOR GIRLS ONLY
This girl is ultra-feminine; non-aggressive, delicate, inclined to imitate the manners and behavior of adult women, although not rebellious over her role as a child. She appears to consider school activities and academic learning as competitive activities more suitable for boys.

This sounds exactly like:	This description is quite a bit like:	There is a slight resemblance to:

Form 1

School ____________________

Teacher____________________

Grade ____________________

Date ____________________

Cheating

Cruelty, Bullying

Daydreaming

On each page of the accompanying booklet there is a single word or phrase which might describe, or remind you of, one or more of the children in your class. Read them one at a time, then write on the same page the name of the FIRST ONE OR TWO CHILDREN you think of (children presently in your class). Do not worry if, on second thought, the connection seems inappropriate; i is your first impression that is of interest. Try not to look ahead to anticipate what words will occur, and do not take much time thinking of a child. If no name occurs to you, go on to the next page. It is expected that some names will occur two or more times, and that some of your school children will not be named at all. REMEMBER, IT IS YOUR IMMEDIATE IMPRESSION THAT COUNTS.

Carelessness In Work

Easily Discouraged

Destroying School Materials

Fearfulness

Disobedience

Impertinence, Defiance

Disorderliness In Class

Domineering

Impudence, Rudeness

Inattention

Inquisitiveness

Interrupting

Lack Of Interest In Work

Laziness

Nervousness

Overcritical Of Others

Physical Coward

Sensitiveness

Shyness

Stealing

Stubbornness

Quarrelsomeness

Resentfulness

Restlessness

Selfishness

Suggestible

Sullenness

Suspiciousness

Tardiness

Tattling

Temper Tantrums

Thoughtlessness

Truancy

Unhappy, Depressed

Unreliableness

Unsocial, Withdrawing

Untruthfulness

Form 7

School ______________

Teacher ______________

Grade ______________

Date ______________

On each page of the accompanying booklet there are one or more phrases which might describe, or remind you of, children in your class. Read them one at a time, then write on the same page the name of the FIRST ONE OR TWO CHILDREN you think of (children presently in your class). Do not worry if, on second thought the connection seems inappropriate; it is your first impression that is of interest. Try not to look ahead to anticipate what words will occur, and do not take much time thinking of a child. If no name occurs to you, go on to the next page. It is expected that some names will occur two or more times, and that some of your children will not be named at all. REMEMBER, IT IS YOUR IMMEDIATE IMPRESSION THAT COUNTS.

Engages in noisy behavior, aggressive [illegible] and teasing

Is overly good and unselfish

Relations with the teacher dominated by the desire for revenge

Makes excuses for failures, and justifies his behavior

Uses charm to attract attention

Form 2

School ________________

Teacher________________

Grade ________________

Date ________________

On each page of the accompanying booklet there are on or more phrases which might describe, or remind you of, children in your class. Read them one at a time, then write on the same page the name of the FIRST ONE OR TWO CHILDREN you think of (children presently in your class). Do not worry if, on second thought the connection seems inappropriate; it is your first impression that is of interest. Try not to look ahead to anticipate what words will occur, and do not take much time thinking of a child. If no name occurs to you, go on to the next page. It is expected that some names will occur two or more times, and that some of your children will not be named at all. REMEMBER, IT IS YOUR IMMEDIATE IMPRESSION THAT COUNTS.

Engages in noisy behavior, aggressive play, fighting, and teasing

Is overly good and unselfish

Relations with the teacher dominated by the desire for revenge

Makes excuses for failures, and justifies his behavior

Uses charm to attract attention

Clings to teacher and seeks to be near her and hold her hand

Uses real or imagined inferiorities as an excuse for not really trying

Seeks to attract attention through success

Is a compulsive talker

Has frequent stomach upsets, headaches, and other physical disorders

Exhibits facial and body mannerisms, consistent gulping and hissing

Always obeys instructions completely, is scrupulously methodical in every activity

Acts as if the teacher does no exist, is sometimes oblivious what happens in class

Habitually pulls his hair, picks at his nose, pulls his ears, bites his nails

Dreads going to school

Engages in frequent vocal defiance

Is excessively orderly and conscientious, uses a new sheet of paper every time an error is made (rather than have erasures)

Fights with little provocation

Stubbornly resists the will an authority of the teacher

Lies at slightest opportunity

Exhibits righteousness, snobbishness

Uses laziness as a means of attracting attention

Shows jealousy, hatred

Is sad and apathetic

Is overly serious-minded unresponsive to fun-provoking situations

Attracts attention by being a nuisance

Lacks spontaneity, answers questions in dull-voiced monosyllables

Is accident prone

Provokes hostility from peers and teacher

Constantly challenges and opposes the leadership of the teacher

Name ____________________

Teacher ____________________

School ____________________

Grade ____________________

Page 2

Always manages to get caught for his misbehavior

If you could select a boy in this class to sit by, whom would you pick?

Exhibits constant movement of fingers or hands, persistent perspiring of parts of body

Page 3

Suppose that the teacher picked the boy to sit by you, if there is any boy you hope she would not select to sit by you, write his name here.

____

Page 4

If you could select a boy in this class to play with, whom would you pick?

____

Page 5

Suppose that the teacher picked the boy to play with you, if there is any boy you hope she would not select to play with you, write his name here.

____

Page 6

If you could select a boy in this class to work with you on a school project, whom would you pick?

____

FORM B

Name ______________________________

Teacher ____________________________

School _____________________________

Grade ______________________________

Page 2

If you could select a boy in this class to sit by, whom would you pick?

____

Page 3

Suppose that the teacher picked the boy to sit by you, if there is any boy you hope she would not select to sit by you, write his name here.

____

Page 4

If you could select a boy in this class to play with, whom would yo pick?

____

Page 5

Suppose that the teacher picked the boy to play with you, if there is any boy you hope she would not select to play with you, write his name here.

____

Page 6

If you could select a boy in this class to work with you on a schoo project, whom would you pick?

____

Page 7

Suppose that the teacher picked the boy to work with you on the project, if there is any boy you hope she would not select to work with you, write his name here.

____

Page 8

If you could select a boy in this class to be the leader, whom would you pick?

____

Page 9

Suppose that the teacher picked the boy to be the class leader, if there is any boy you hope she would not select to be the class leader, write his name here.

____

Page 10

If you could select a boy in this class to take with you to the movie on your birthday, whom would you pick?

____

Page 11

Suppose that your mother picked the boy for you to take to the movie on your birthday, if there is any boy you hope she would not select to go with you, write his name here.

____

FORM G

Name ____________________

Teacher ____________________

School ____________________

Grade ____________________

Page 2

If you could select a girl in this class to sit by, whom would you pick?

____

Page 3

Suppose that the teacher picked the girl to sit by you, if there is any girl you hope she would not select to sit by you, write her name here.

____

Page 4

If you could select a girl in this class to play with, whom would you pick?

____

Page 5

Suppose that the teacher picked the girl to play with you, if there is any girl you hope she would not select to play with you write her name here.

____

Page 6

If you could select a girl in this class to work with you on a school project, whom would you pick?

____

Page 7

Suppose that the teacher picked the girl to work with you on the project, if there is any girl you hope she would not select to work with you, write her name here.

____

Page 8

If you could select a girl in this class to be the leader, whom would you pick?

____

Page 9

Suppose that the teacher picked the girl to be the class leader, if there is any girl you hope she would not select to be the class leader, write her name here.

____

Page 10

If you could select a girl in this class to take with you to the movie on your birthday, whom would you pick?

____

Page 11

Suppose that your mother picked the girl for you to take to the movie on your birthday, if there is any girl you hope she would not select to go with you, write her name here.

____

Pupil Perception Test

Sample: The teacher shows the child how to draw the cowboy.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

Sample: The teacher is cranky when the child wiggles in the chair.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

Sample: The teacher likes to read a story to the child.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

1. The teacher is sorry that the child has not minded.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

2. The teacher is scolding the child for misbehaving on the school grounds.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

3. The teacher is helping the child to find a place to sit down.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

4. The child is telling the teacher about being unhappy in school.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

5. The child is whispering to the teacher about something that someone has done.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

6. The child is asking the teacher how to hold the baseball bat.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

7. The child is promising the teacher to behave so the teacher will not send a bad report home.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

8. The child is inviting the teacher to attend a birthday party.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

9. The child is asking the teacher for help with a school problem.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

10. The teacher is questioning the child about someone who was hurt on the way to school.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

11. The teacher is telling the child to stop sassing back.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

12. The teacher is breaking up a fight between the child and someone else.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

13. The teacher grabs the child who passed something in class.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

14. The teacher yells excitedly at the child who is looking at someone else's test answers.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

15. The teacher praises the child for doing a nice job.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

16. The teacher shouts at the child who is pushing.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

17. The teacher frowns at the child who has not finished the assigned work.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

18. The teacher paddles the child who said something naughty.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

19. The teacher laughs when the child tells a funny story.
Do you think the child is a girl or a boy?
Do you think the teacher is a man or a woman?

20. The teacher grabs and shakes the child who told the lie.
Do you think the child is a boy or a girl?
Do you think the teacher is a woman or a man?

21. The parent is sorry that the child has not minded.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

22. The parent is scolding the child for misbehaving on the school grounds.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

23. The parent is helping the child to find a place to sit down.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

24. The child is telling the parent about being unhappy in school.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

25. The child is whispering to the parent about something that someone has done.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

26. The child is asking the parent how to hold the baseball bat.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

27. The child is promising the parent to behave so the teacher will not send a bad report home.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

28. The child is inviting the parent to attend a birthday party.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

29. The child is asking the parent for help with a school problem.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

30. The parent is questioning the child about someone who was hurt on the way to school.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

31. The parent is telling the child to stop sassing back.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

32. The parent is breaking up a fight between the child and someone else.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

33. The parent grabs the child after hearing that the child passed something in class.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

34. The parent yells excitedly at the child after hearing that the child was looking at someone else's test answers.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

35. The parent praises the child for doing a nice job.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

36. The parent shouts at the child who is pushing.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

37. The parent frowns at the child who has not finished the assigned work.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

38. The parent paddles the child who said something naughty.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

39. The parent laughs when the child tells a funny story.
Do you think the child is a girl or a boy?
Do you think the parent is a father or a mother?

40. The parent grabs and shakes the child who told the lie.
Do you think the child is a boy or a girl?
Do you think the parent is a mother or a father?

SURVEY: PUPIL PERCEPTION OF
ADULT ROLES (SCHOOL)

Name ____________________
Room ____________ Sex ________

1- BOY Or GIRL
WOMAN Or MAN

2- GIRL Or BOY
MAN Or WOMAN

3- BOY Or GIRL
WOMAN Or MAN

4- GIRL Or BOY
MAN Or WOMAN

5- BOY Or GIRL
WOMAN Or MAN

6- GIRL Or BOY
MAN Or WOMAN

7- BOY Or GIRL
WOMAN Or MAN

8- GIRL Or BOY
MAN Or WOMAN

9- BOY Or GIRL
WOMAN Or MAN

10- GIRL Or BOY
MAN Or WOMAN

11- BOY Or GIRL
WOMAN Or MAN

12- GIRL Or BOY
MAN Or WOMAN

13- BOY Or GIRL
WOMAN Or MAN

14- GIRL Or BOY
MAN Or WOMAN

15- BOY Or GIRL
WOMAN Or MAN

16- GIRL Or BOY
MAN Or WOMAN

17- BOY Or GIRL
WOMAN Or MAN

18- GIRL Or BOY
MAN Or WOMAN

19- BOY Or GIRL
WOMAN Or MAN

20- GIRL Or BOY
MAN Or WOMAN

SURVEY: PUPIL PERCEPTION OF ADULT ROLES (HOME)

21- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

22- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

23- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

24- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

25- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

26- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

27- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

28- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

29- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

30- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

31- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

32- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

33- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

34- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

35- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

36- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

37- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

38- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

39- ☺ BOY Or ☺ GIRL
☺ MOTHER Or ☺ FATHER

40- ☺ GIRL Or ☺ BOY
☺ FATHER Or ☺ MOTHER

Table B

CSD Scale: Question Form

Devised by Virginia Crandall, Vaughn J. Crandall and Walter Katkovsky

Fels Research Institute for the Study of Human Development

Yellow Springs, Ohio

Y [✓ N] 1. Do you ever get angry if you have to stop in the middle of something you're doing to eat dinner or go to school?
Y [✓ N] 2. Does it sometimes bother you to share your things with your friends?
[✓ Y] N 3. Do you always enjoy yourself at a party?
[✓ Y] N 4. Are you always polite to older people?
Y [✓ N] 5. Do you sometimes tell a little lie?
Y [✓ N] 6. Do you ever hit a boy or girl who is smaller than you?
Y [✓ N] 7. Sometimes do you feel like doing other things instead of what your teacher wants you to do?
Y [✓ N] 8. Do you ever act "fresh" or "talk back" to your mother or father?
[✓ Y] N 9. When you make a mistake, do you always admit you are wrong?
[✓ Y] N 10. Do you feel that your parents always show good judgment; that is, do they always make good choices?
Y [✓ N] 11. Have you ever felt like saying unkind things to a person?
Y [✓ N] 12. Have you sometimes felt like throwing or breaking things?
Y [✓ N] 13. Do you ever let someone else get blamed for what you do wrong?
Y [✓ N] 14. Do you sometimes brag to your friends about what you can do?
[✓ Y] N 15. Are you always careful about keeping your clothing neat and your room picked up?
Y [✓ N] 16. Do you ever shout when you feel angry?
Y [✓ N] 17. Do you sometimes feel like staying home from school even if you're not sick?
Y [✓ N] 18. Sometimes, do you wish your parents didn't check up on you so closely?
[✓ Y] N 19. Do you always help people who need help?
Y [✓ N] 20. Do you sometimes argue with your mother to let you do something she doesn't want you to do?
Y [✓ N] 21. Do you ever say anything that makes somebody else feel bad?
[✓ Y] N 22. Do you think your teachers know more about everything than you do?
[✓ Y] N 23. Are you always polite, even to people who are not very nice?
Y [✓ N] 24. Sometimes, do you do things you've been told not to do?
Y [✓ N] 25. Do you ever get angry?
Y [✓ N] 26. Do you sometimes want to own things just because your friends have them?
[✓ Y] N 27. Do you always listen to your parents?
Y [✓ N] 28. Do you ever forget to say "please" and "thank you"?
Y [✓ N] 29. Do you sometimes wish you could just play around instead of having to go to school?
[✓ Y] N 30. Do you always wash your hands before every meal?
Y [✓ N] 31. Do you sometimes dislike helping your parents even though you know they need your help around the house?
Y [✓ N] 32. Do you ever find it hard to make friends?
Y [✓ N] 33. Have you ever broken a rule?
Y [✓ N] 34. Sometimes, do you try to get even when someone does something to you that you don't like?

CSD Scale: Question Form (continued)

Y [✓ N] 35. Do you sometimes feel angry when you don't get your way?
[✓ Y] N 36. Do you always help a hurt animal?
Y [✓ N] 37. Do you sometimes want to do thing your parents think you are too young to do?
Y [✓ N] 38. Do you sometimes feel like making fun of other people?
Y [✓ N] 39. Have you ever borrowed anything without asking permission first?
Y [✓ N] 40. Do you sometimes get mad when someone disturbs something you've been working on?
[✓ Y] N 41. Are you always glad to cooperate with others?
Y [✓ N] 42. Do you ever get angry when your best friend wants to do something you don't want to do?
Y [✓ N] 43. Do you sometimes wish that the other kids would pay more attention to what you say?
[✓ Y] N 44. Do you always do the right things?
Y [✓ N] 45. Are there some times when you don't like to do what your parents tell you? (Mind your parents?)
Y [✓ N] 46. Are there times that you don't like it if somebody asks you to do something for him?
Y [✓ N] 47. Do you sometimes get mad when people don't do what you want them to do?

Table B
CSD Scale: Answer Sheet

Devised by Virginia Crandall, Vaughn J. Crandall and Walter Katkovsky .

NAME: ____

School ____________________ B G Date: ______________

Teacher ____________________

1. Yes No
2. Yes No
3. Yes No
4. Yes No
5. Yes No
6. Yes No
7. Yes No
8. Yes No
9. Yes No
10. Yes No
11. Yes No
12. Yes No
13. Yes No
14. Yes No
15. Yes No
16. Yes No
17. Yes No
18. Yes No
19. Yes No
20. Yes No
21. Yes No
22. Yes No
23. Yes No
24. Yes No
25. Yes No
26. Yes No
27. Yes No
28. Yes No
29. Yes No
30. Yes No
31. Yes No
32. Yes No
33. Yes No
34. Yes No
35. Yes No
36. Yes No
37. Yes No
38. Yes No
39. Yes No
40. Yes No
41. Yes No
42. Yes No
43. Yes No
44. Yes No
45. Yes No
46. Yes No
47. Yes No